eLogger User Manual

Version 1.0.0, Jun 2011

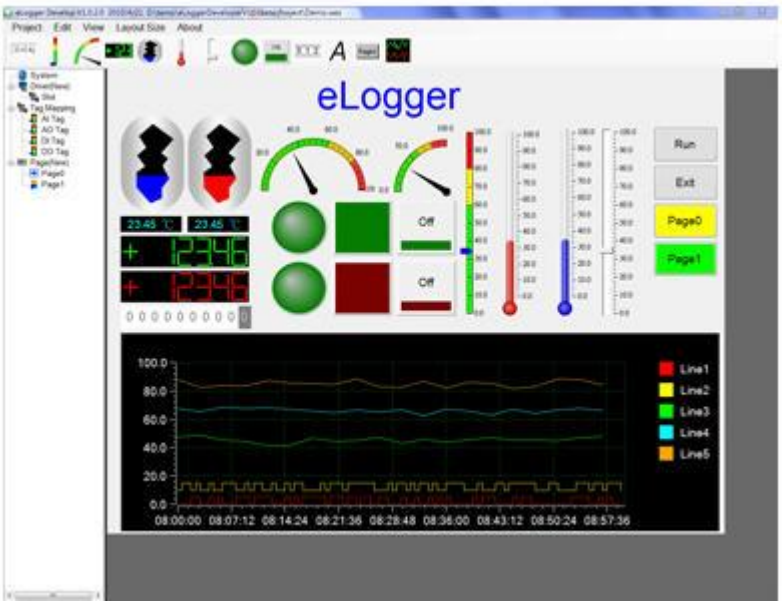


Table of Contents

1. Introduction

eLogger is a free charge and easy-to-use software to implement HMI and data logger on our Windows CE.NET 5.0 based PACs (WinPAC and ViewPAC) for simple I/O monitoring and controlling systems. It can save your money and shorten time-to-market.

eLogger can quickly and easily develop an application with flexible I/O configuration. The developing can be completed in just 5 simple steps: configuring I/O modules, configuring data logger, designing HMI layout pages, uploading the project to WinPAC/ViewPAC, running it. In the simple steps, there is no need of software programming knowledge. And if you want to add more powerful functions, eLogger also provides a flexible "shared memory" interface to allow your VS.NET and ISaGRAF programs co-work with it.

1.1 Features

1.1.1 PAC Support

- Developer：Windows 2K、Windows XP、Windows Vista、Windows7
- Runtime target：
  - Windows CE.NET 5.0 platform

    WinPAC series, ViewPAC series
  - Windows CE.NET 6.0 platform

    XP-8000-CE6, XP-8000-Atom-CE6
  - Windows XPE platform

    XP-8000, XP-8000-Atom

1.1.2 Support Driver

- Math Curve(For Demo)
- Module on slot
- Modbus serial master(Support Modbus RTU/Modbus ASCII)
- Modbus TCP master

1.1.3 HMI

- **Components**：Button、Text Box、Linear Gauge、Angular Gauge、LED、Switch、Tank、Label、Plot、Seven Segment、Thermometer、Slider、Odometer
- **Pages**：Max of 32 pages.

1.1.4 Real Time Data Trend：Max. of 5 trend line in one plot.

1.1.5 Value Scaling：

Set gain and offset can scale analog values from volt or amp unit to another physical unit. For example: rpm for rotation, kg for weight.

1.1.6 Account Management

3 levels operating management: Admin, Power User, User

	Admin	Power User	User
Open project	●	○	○
Start/Stop project	●	●	○
Set AO/DO values	●	●	○
Switching group pages	●	●	●

.

● : allowed ○ : not allowed

1.1.7 Remote Maintenance

You can use eLogger Developer's remote control function to Upload / Run / Stop the project through the Ethernet.

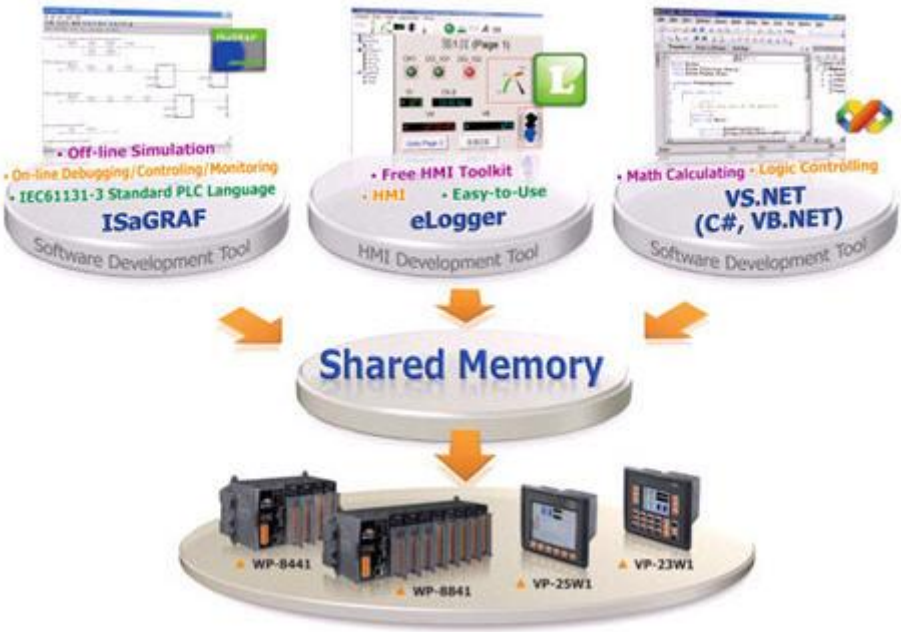
1.1.8 Database

- Local database.
- Remote database(not avalible): SQL server on windows platform.

1.1.9 Logic Control Programming

Via the " shared memory " , you can choose ISaGRAF or VS.Net to develop a logic control program and co-work with the elogger. Your programs can access the data of I/O module and exchange other temporary data through the "shared memory". You can focus on the logic control programming.

- ISaGRAF (IEC61131-3 standard PLC languages) (Refer to ISaGRAF FAQ-115)
- Visual Studio .NET (C#, VB.NET) for Window CE.NET 5.0



1.2 Support Module

Support List :http://www.icpdas.com/products/PAC/winpac/io_support_list.htm

8K I/O Module	
8K AI	I8017HW
8K AO	I8024W
8K DIO	I8040W、I8041W、I8042W、I8046W、I8050W、I8051W、I8052W、I8053W、I8054W、I8055W、I8056W、I8057W、I8058W、I8060W、I8063W、I8064W、I8065W、I8066W、I8068W、I8069W、I8077W
87K I/O Module	
87K AI	I87005W、I87013W、I87015W、I87015PW、I87017RW、I87017RCW、I87017A5、I87018W、I87018RW、I87018ZW、I87019RW
87K AO	I87024W、I87024CW、I87028CW
87K DIO	I87040W、I87041W、I87046W、I87051W、I87052W、I87053W、I87053WA5、I87053WE5、I87054W、I87055W、I87057W、I87058W、I87059W、I87063W、I87064W、I87065W、I87066W、I87068W、I87069W
ET-7000	
ET-7005、ET-7015、ET-7016、ET-7017、ET-7017-10、ET-7018Z、ET-7019、ET-7026、ET-7042、ET-7044、ET-7050、ET-7051、ET-7052、ET-7053、ET-7060、ET-7065、ET-7066、ET-7067	
PET-7000	
PET-7005、PET-7015、PET-7016、PET-7017、PET-7017-10、PET-7018Z、PET-7019、PET-7026、PET-7042、PET-7044、PET-7050、PET-7051、PET-7052、PET-7053、PET-7060、PET-7065、PET-7066、PET-7067	
WISE	
WISE-7105、WISE-7115、WISE-7117、WISE-7118Z、WISE-7119、WISE-7126、WISE-7144、WISE-7151、WISE-7152、WISE-7160、WISE-7167	

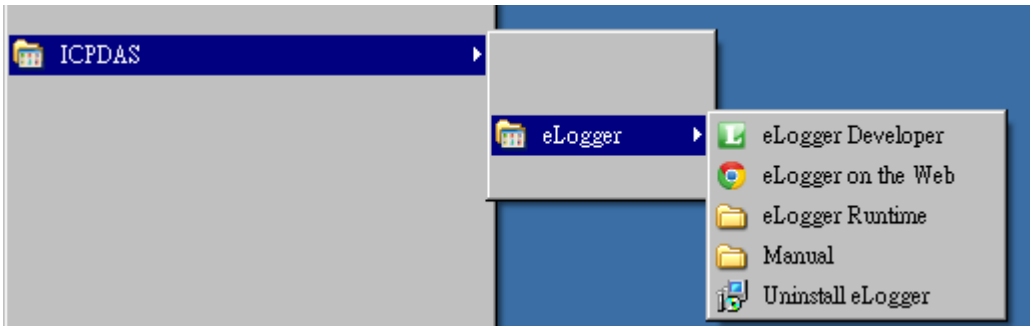
M-7000	
AI	M7005、M7015、M7016、M7016D、M7017、M7017C、M7017R、M7017RC、M7018、M7018R、M7019R、M7033、M7033D
AO	M7022、M7024
DIO	M7041、M7041D、M7045、M7045D、M7050、M7050D、M7051、M7051D、M7052、M7052D、M7053、M7053D、M7055、M7055D、M7059D、M7060、M7060D、M7067、M7067D

1.3 Installation

Please install .NET Framework 3.5 before eLogger installation.

Microsoft.com downloads

Execute eLogger setup to install eLogger Developer and eLogger Runtime. After installation, there will be “eLogger Developer”, “eLogger Runtime” shortcut in “Programs/ICPDAS/eLogger”.



eLogger download path：

http://ftp.icpdas.com/pub/cd/winpac/napdos/elogger/setup/

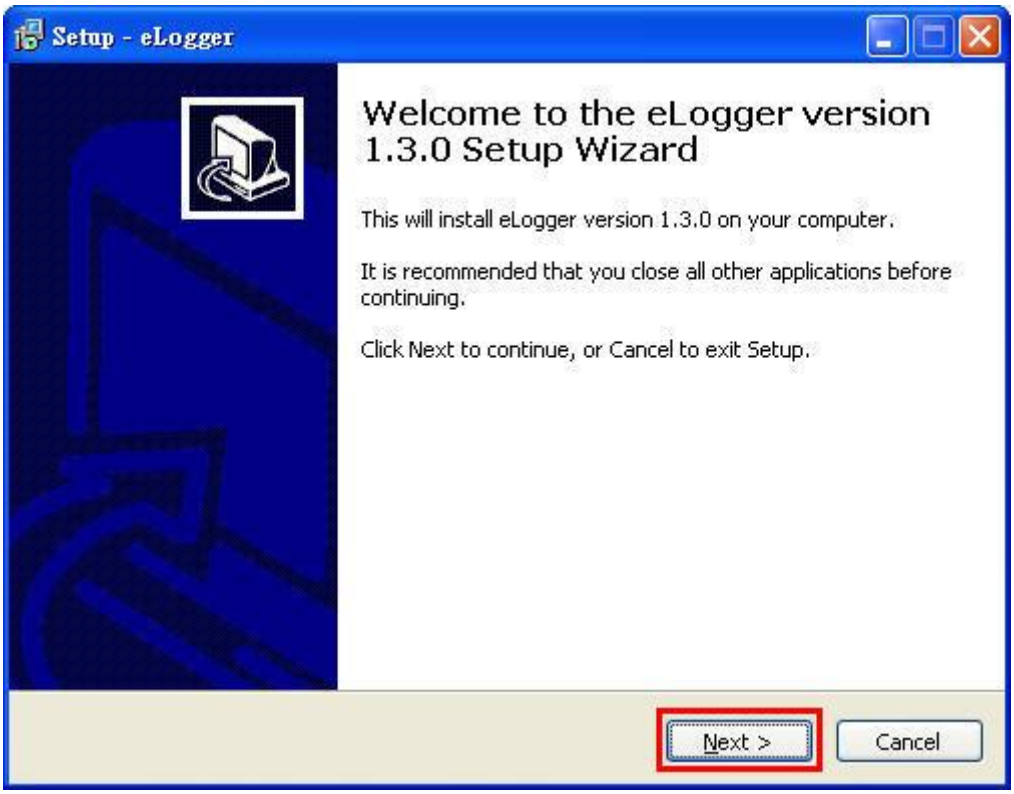
1.3.1 Step by step

Step1. Download eloggersetup_vAAA_yyyymmdd.exe, and execute it.

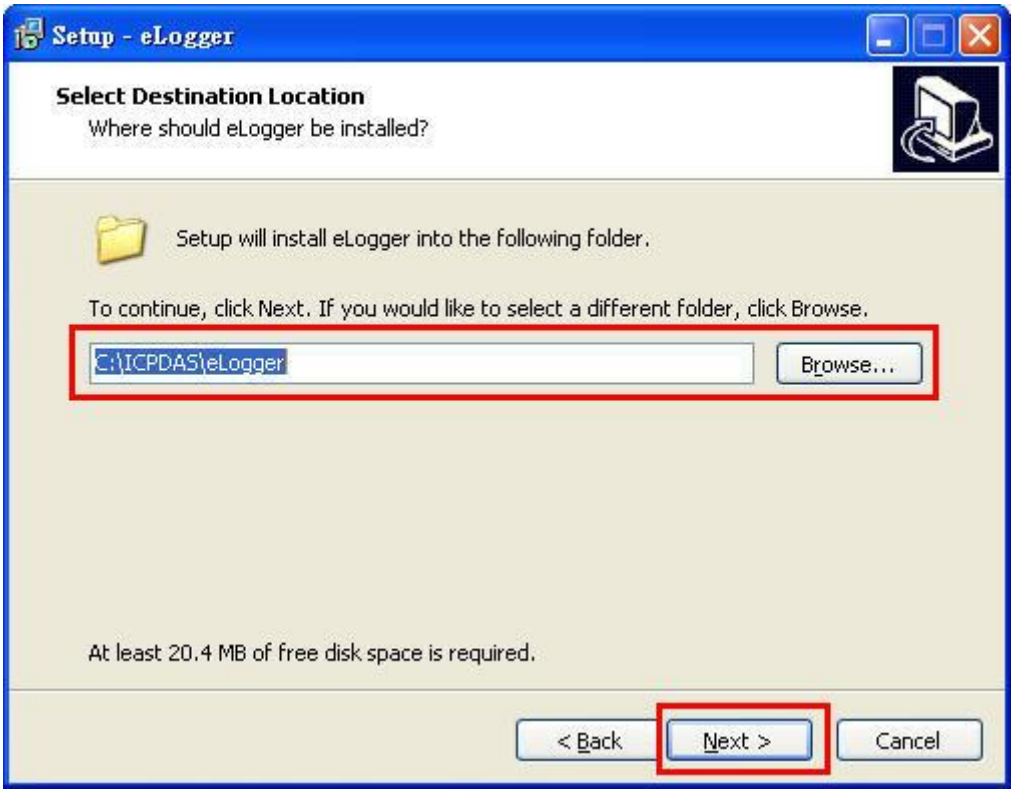
AAA: Version number. yyyymmdd:Release date.

Step2. Choose the language interface and click **OK.**

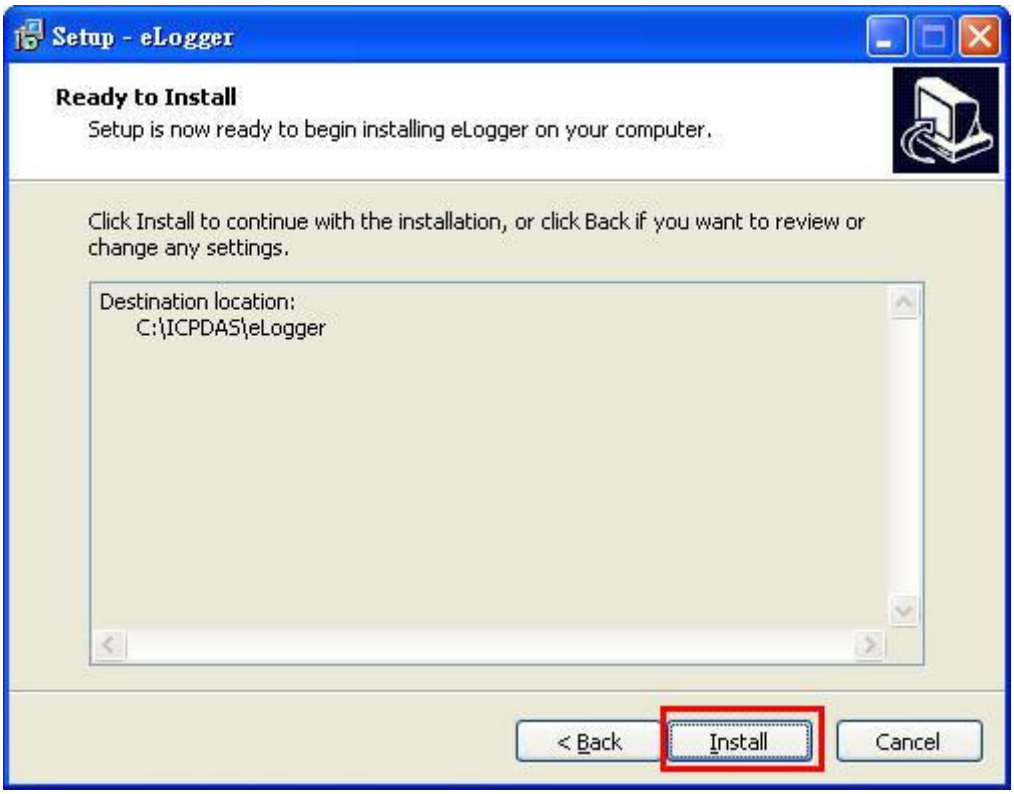
Step3. Clcik “**Next”** to continue installation.



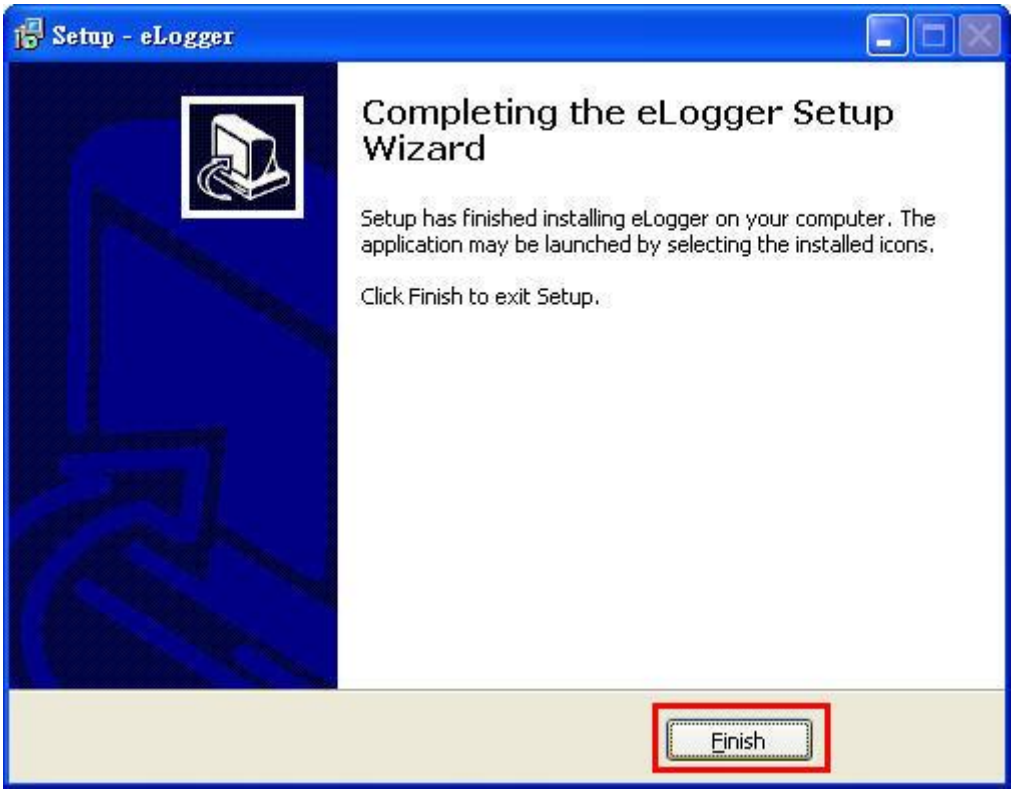
Step4. The default folder is C:\ICPDAS\eLogger, You can click “**Browser”** to change the folder. Clcik” **Next”** to continue.



Step5. Clcik “**Install”.**

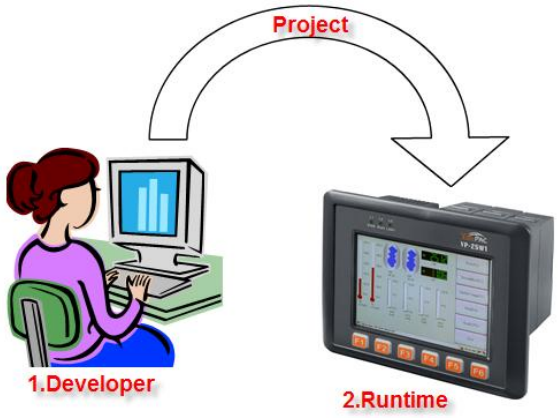


Step6. Click “**Finish”** to exit setup.



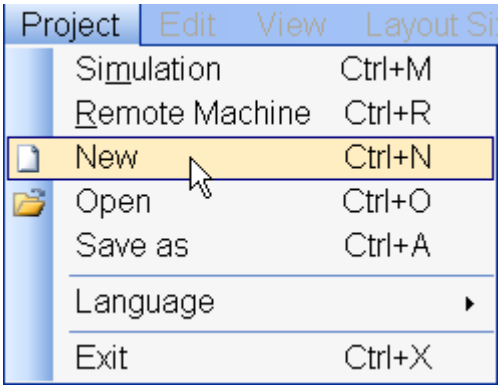
2. My first project

eLogger has 2 programs：eLogger Developer and eLogger Runtime. You can designthe project with eLoggerDeveloper.exe on PC, and run the runtime file on PAC. You can following the steps to run a simulation project.



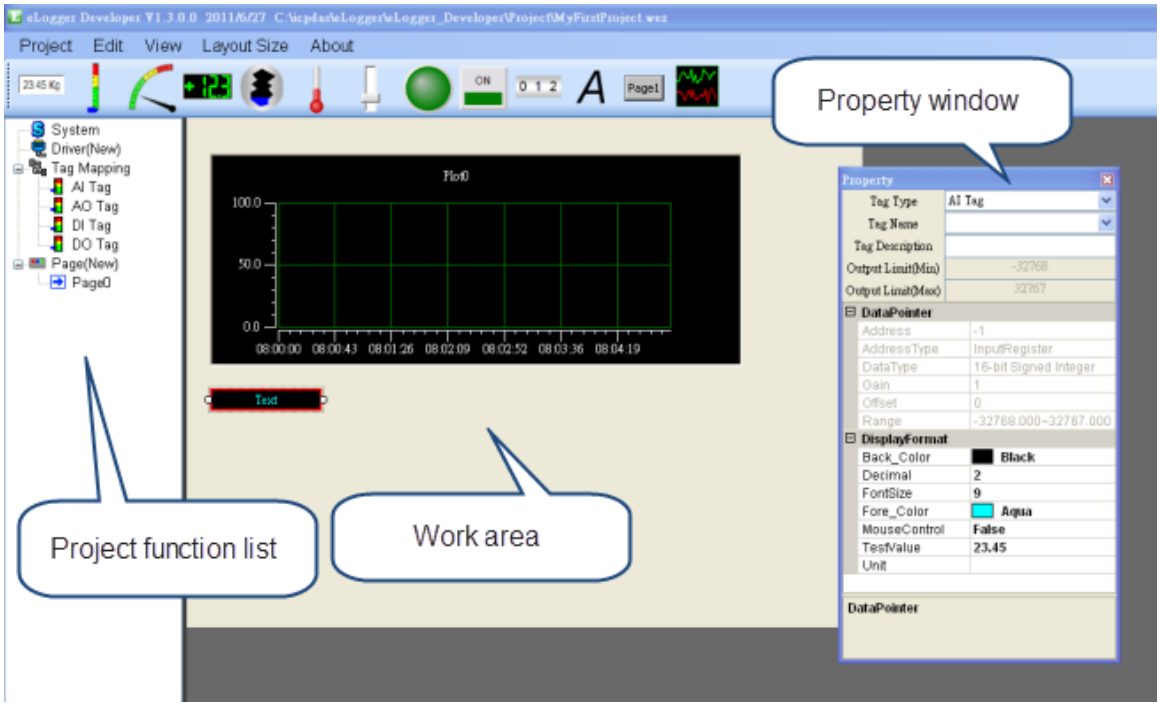
2.1 Open a new project.

Execute eLoggerDeveloper, and click "**Project"=>" New",** type the project name and choose open.



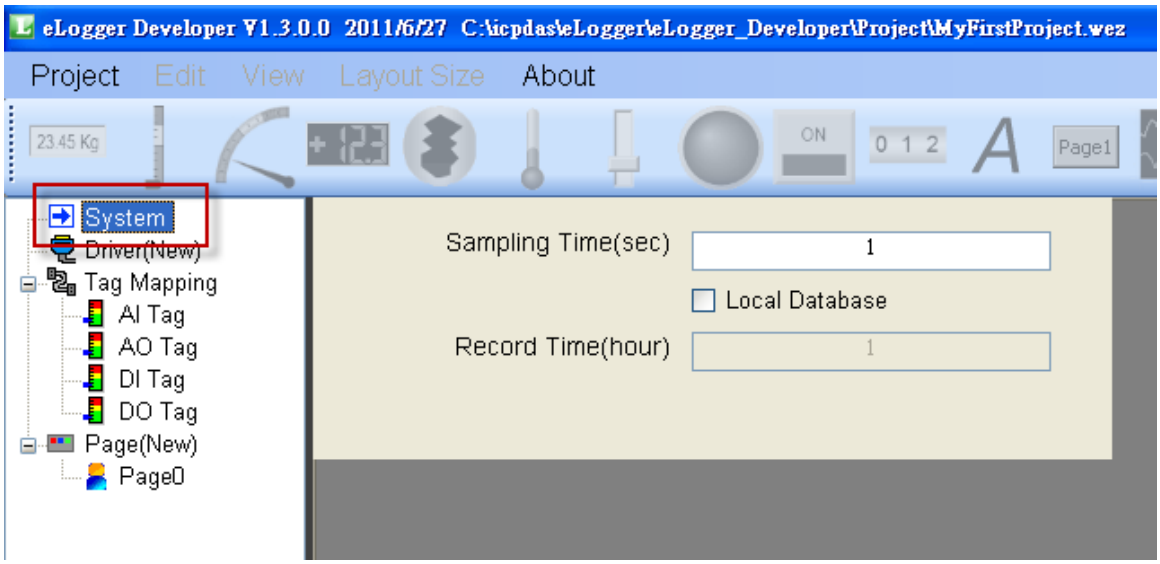
2.2 Interface description

The left side of main interface is the project function list, the right side is the work area.



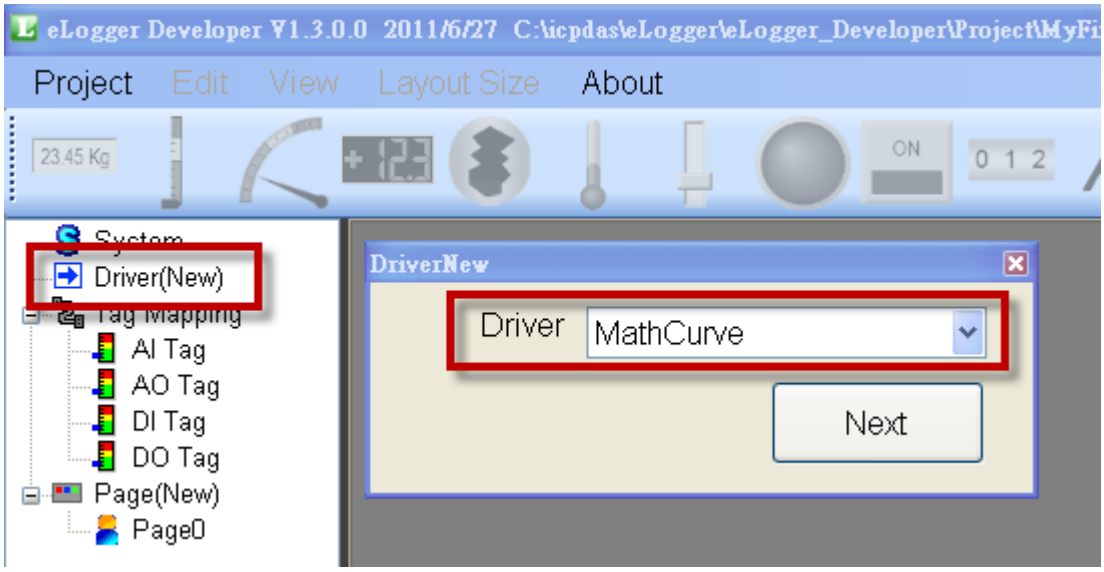
2.3 System Setting

Click System and set the sampling time to 1 sec.

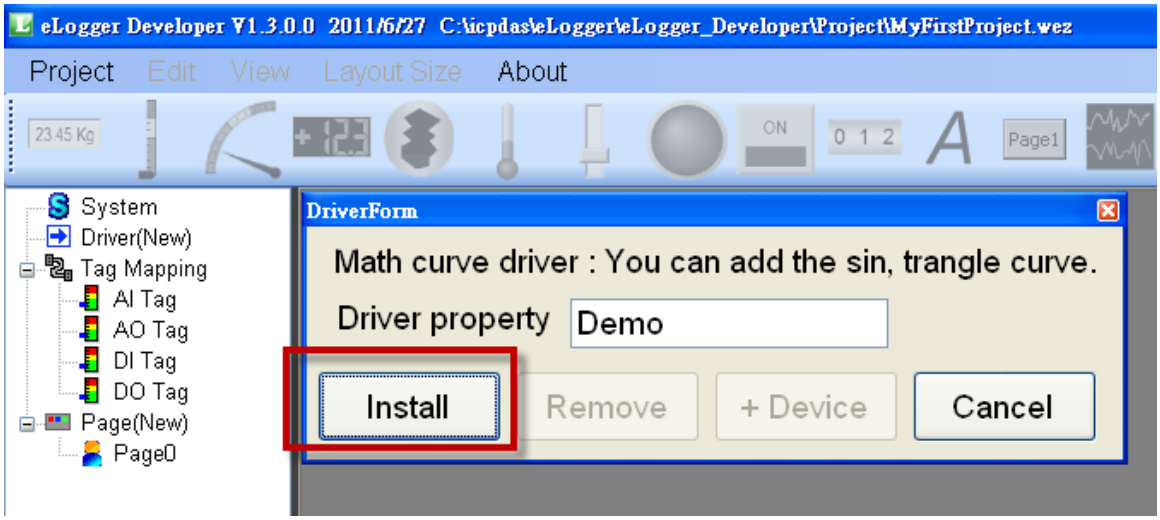


2.4 Add Driver

Click Driver(New) , and choose a driver “Math Curve”, then click “Next”.

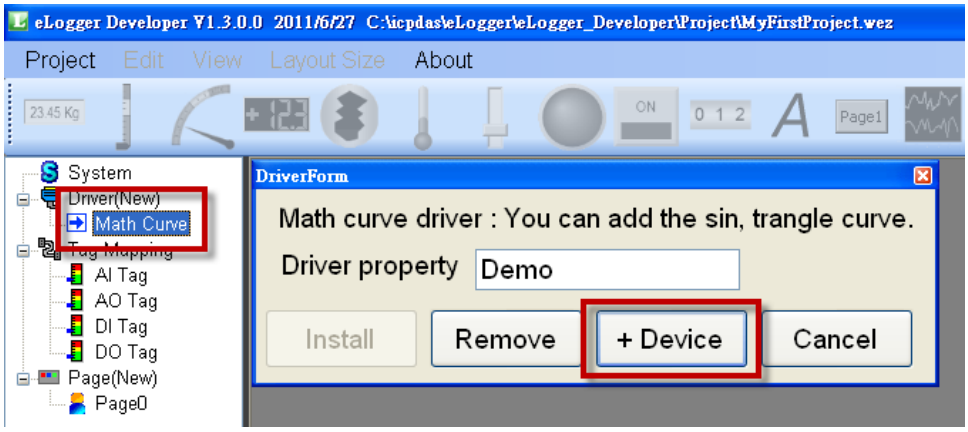


Click “Install” to add the driver to project.

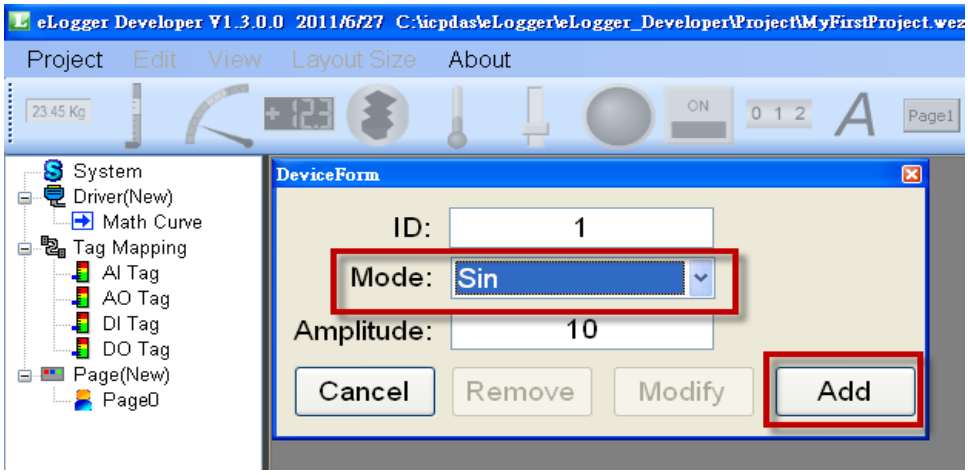


2.5 Add Device

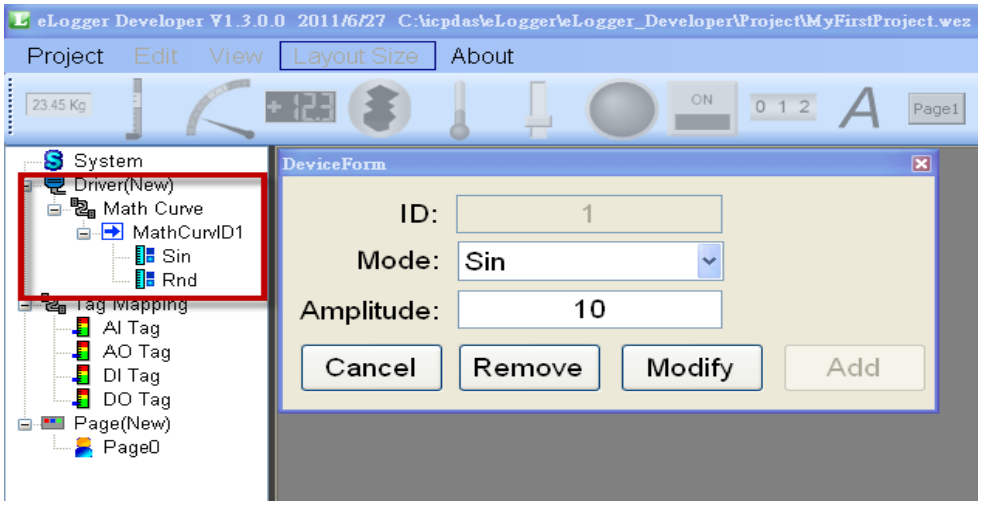
Click “Math Curve” and press the “+Device” button of the driver form.



Choose “Sin” mode of the device.

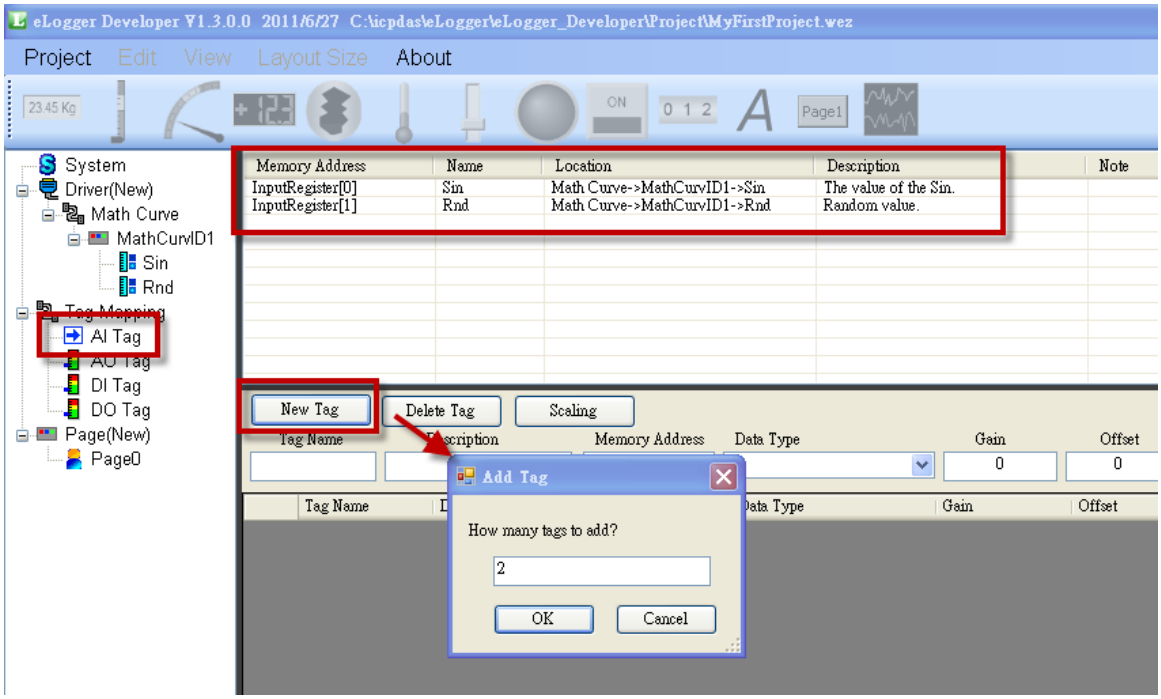


You will see a device was add in the list. The device has 2 simulation value “Sin” and “Rnd”.

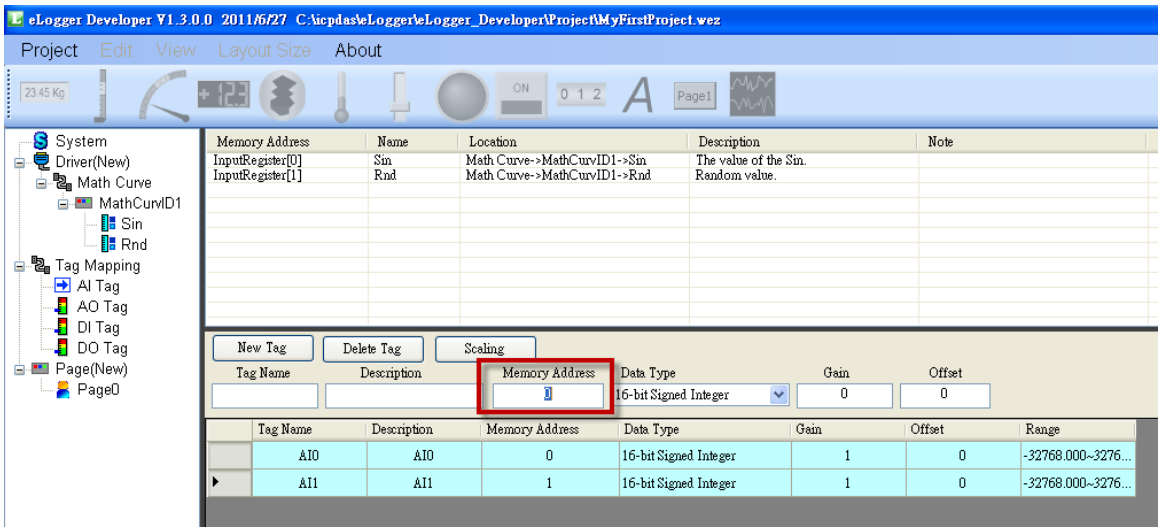


2.6 Add Tags

Click “AI Tag”, You will see the memory mapping on the right side. The device “MathCurvID1” used InputRegister 0~1 to save it’s “Sin” and “Rnd” values. You can click “New Tag” to add 2 tags.



Then you can select the rows of the tag list, and set the memory address to 0.AI0’s memory address will be set to 0, and AI1’s will be 1.

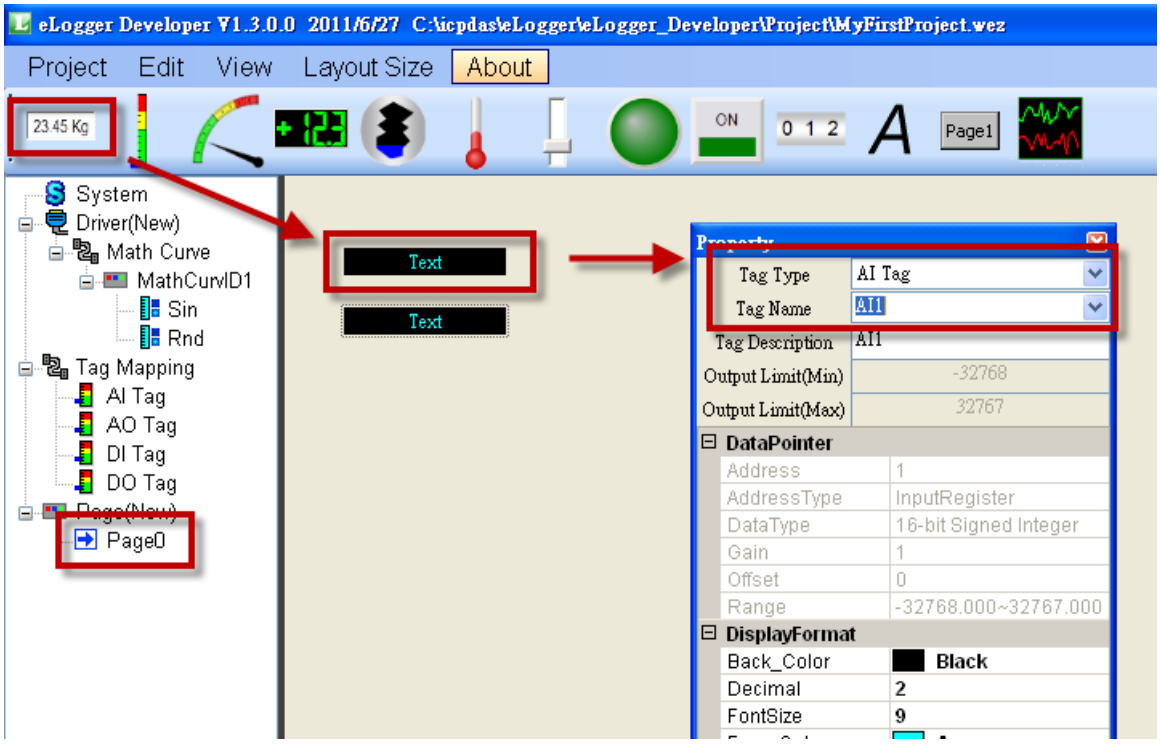


Now we have 2 tags (AI0, AI1), and they are point to Input Register [0] and [1].

2.7 Edit Page

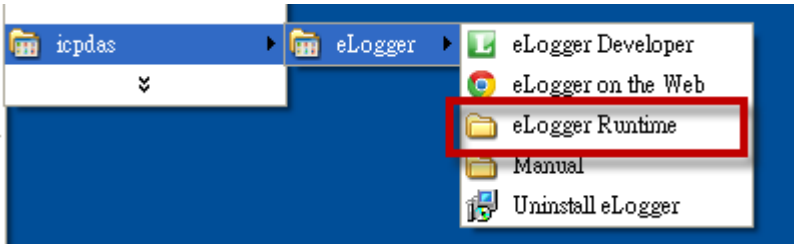
Click “Page0”, click the textbox on the toolbar to add 2 textbox on the page.

Select the textbox, and choose the tag name in property window.



2.8 Run eLogger Runtime on PAC

Copy the runtime files to PAC.

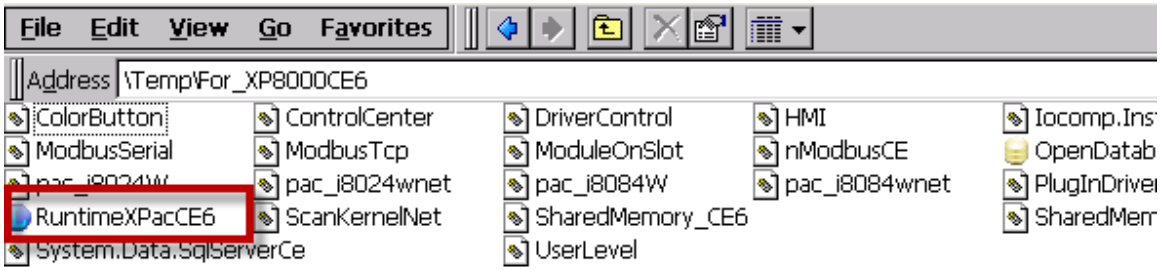


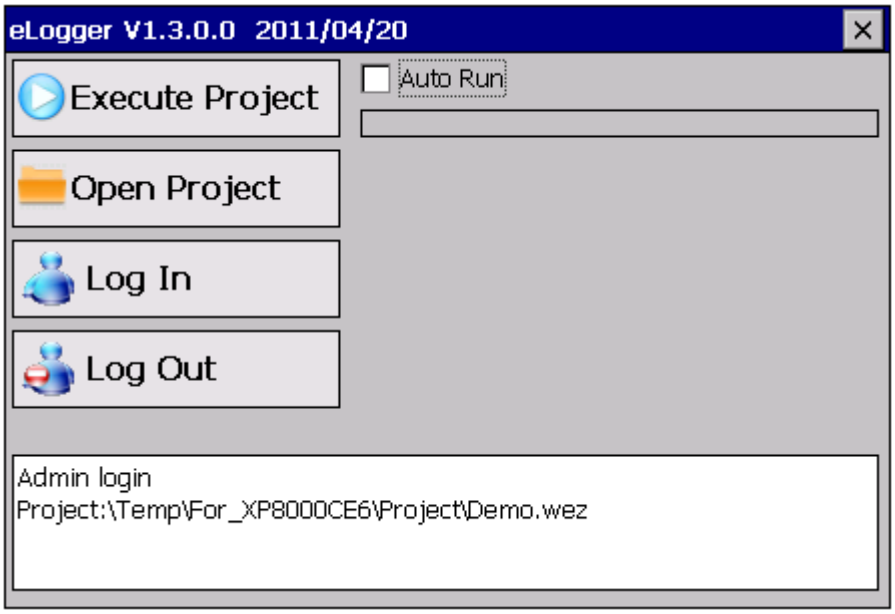
For_WinPAC support WinPAC series, ViewPAC series

For_XP8000CE6 supports XP-8000-CE6, XP-8000-Atom-CE6

For_XP8000WES supports XP-8000, XP-8000-Atom

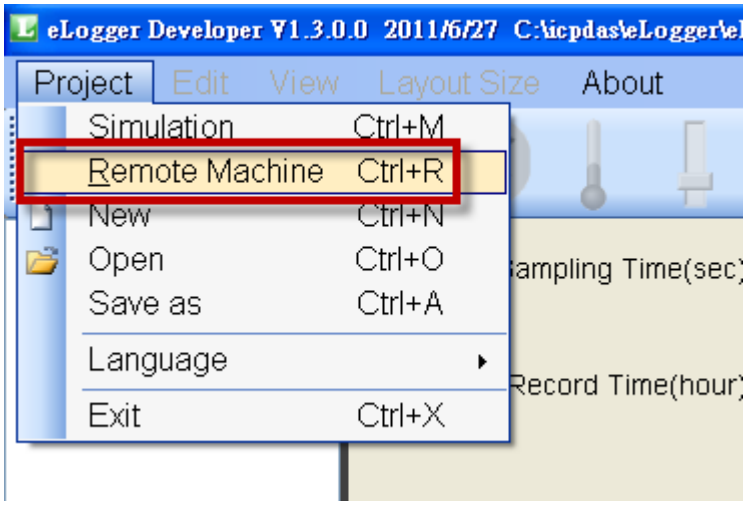
Then execute RuntimeXXXX.exe.





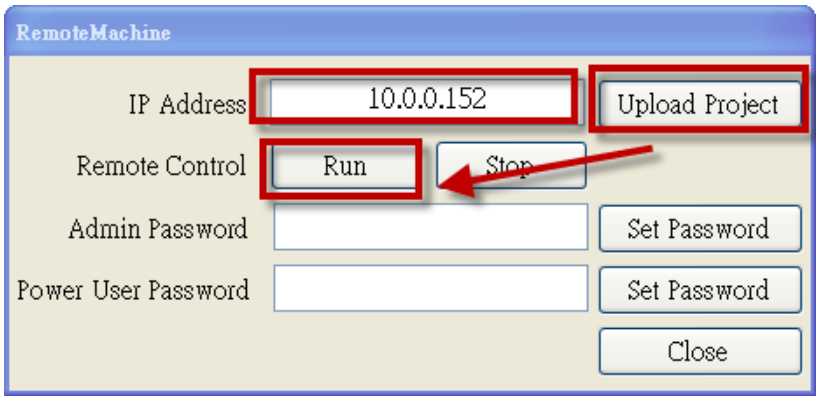
2.9 Upload project frome eLogger Developer

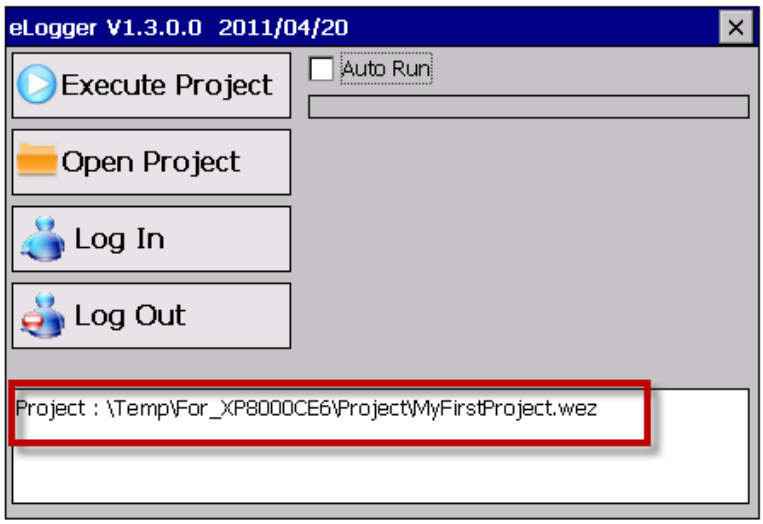
Click eLogger Developer's "Project" => "Remote Machine".



Type PAC's IP address, then click "Upload Project".

After the runtime program received the project, you can click "Run" to run the project.





3. Support Driver

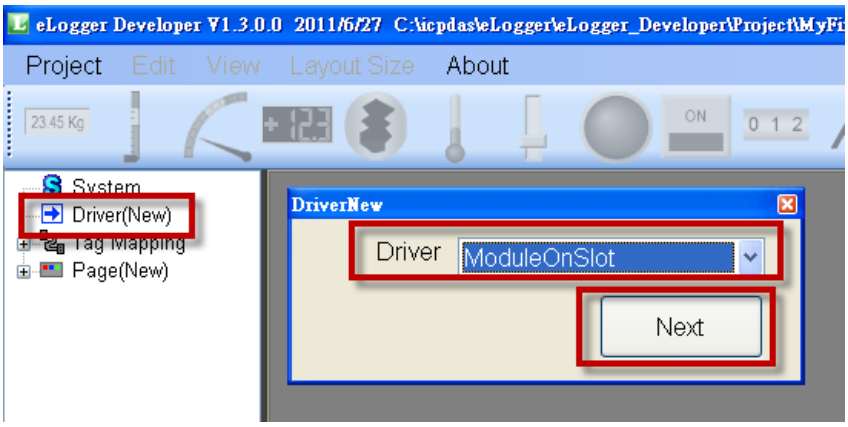
eLogger driver communicate with the IO modules, and save the IO values to the shared memory. Here are the eLogger support driver lists, and the chapter will show you how to setup the driver

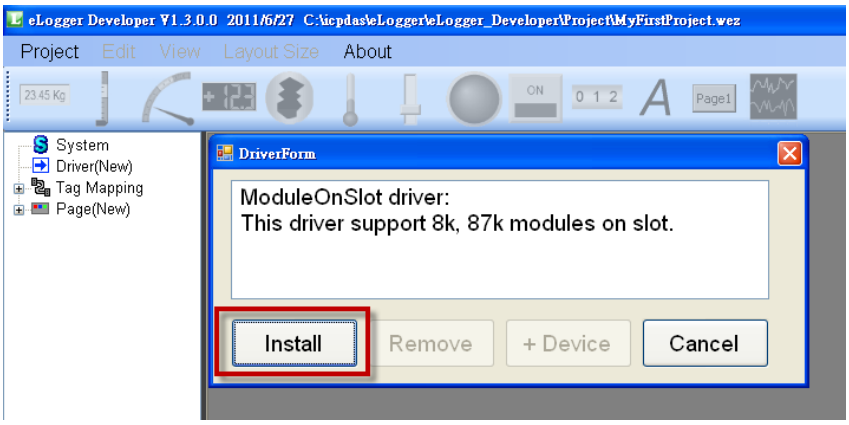
- Module on slot
- Modbus TCP
- Modbus Serial

3.1 Module on slot

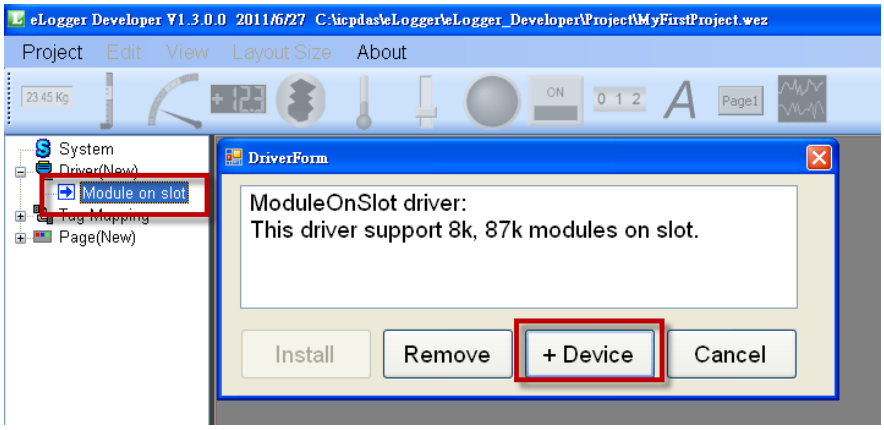
This driver support the I-8K, I-87K module on PAC's slot.

Step1. Install Driver

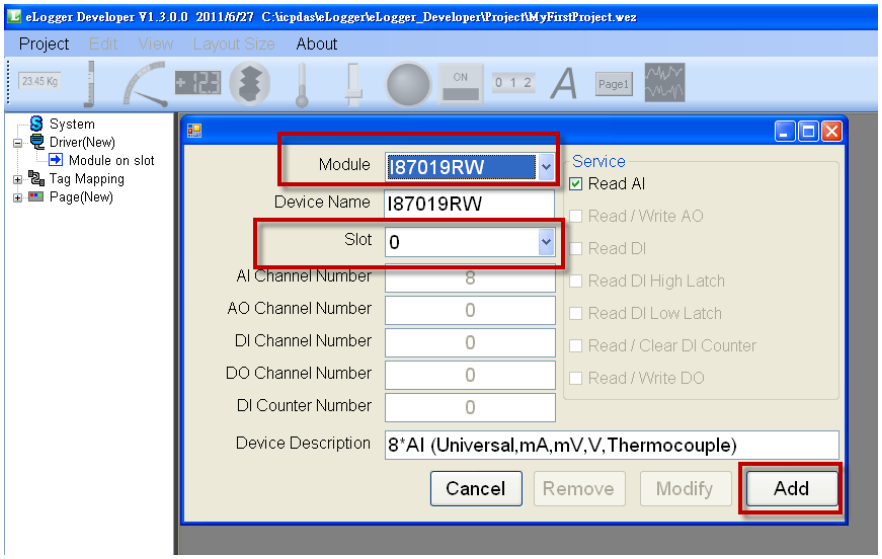




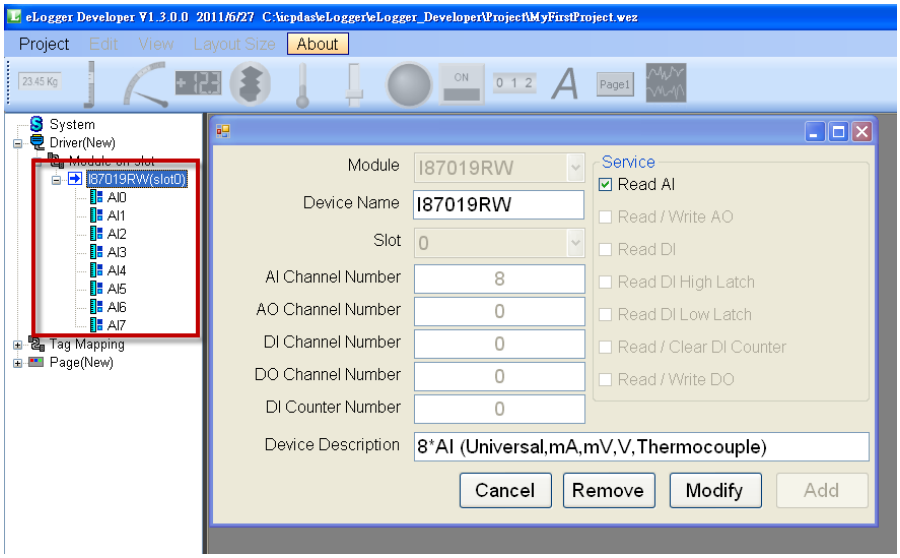
Step2. Add Device



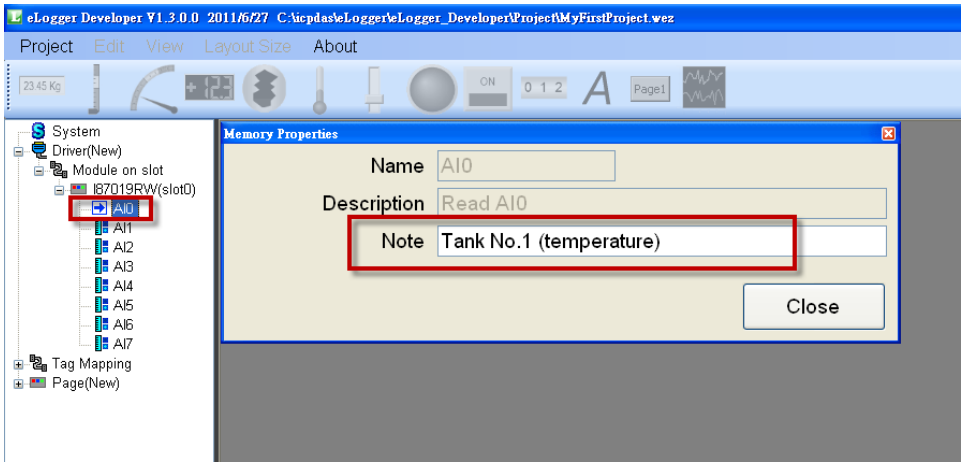
Choose a module, and set it's slot number, then click "Add".



The device and it's channels will be on the lists.

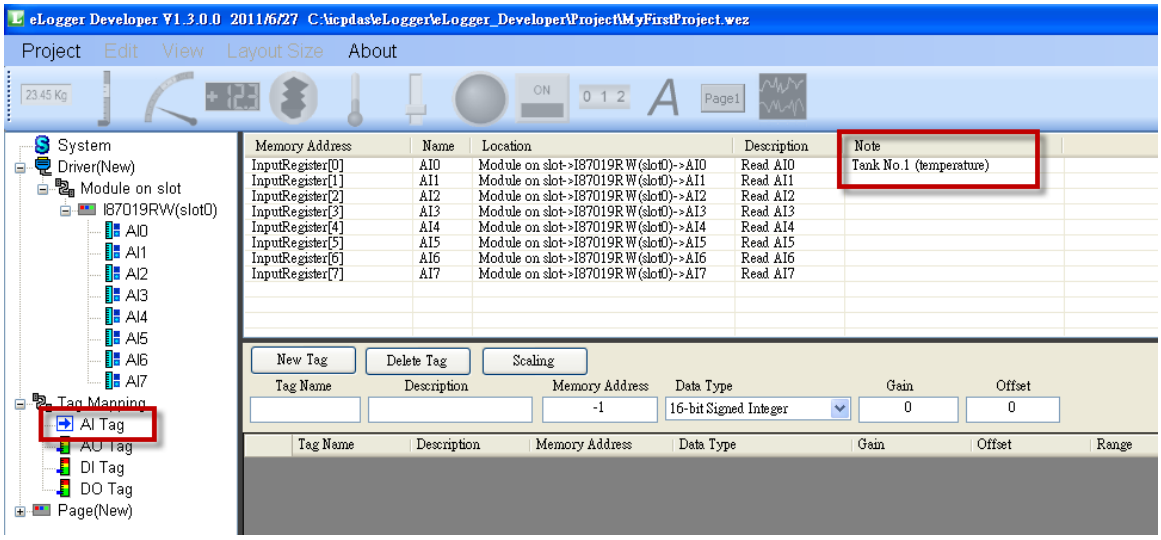


You can edit the channel's note.



The channels will map to the shared memory.

You can see them on "Tag Mapping".



3.2 Modbus TCP

This driver supports ICPDAS Modbus TCP modules, and standard Modbus TCP devices.
The driver uses Modbus command :

FC1 Read multiple coils status (0xxxx) for DO

FC2 Read multiple input discretes (1xxxx) for DI

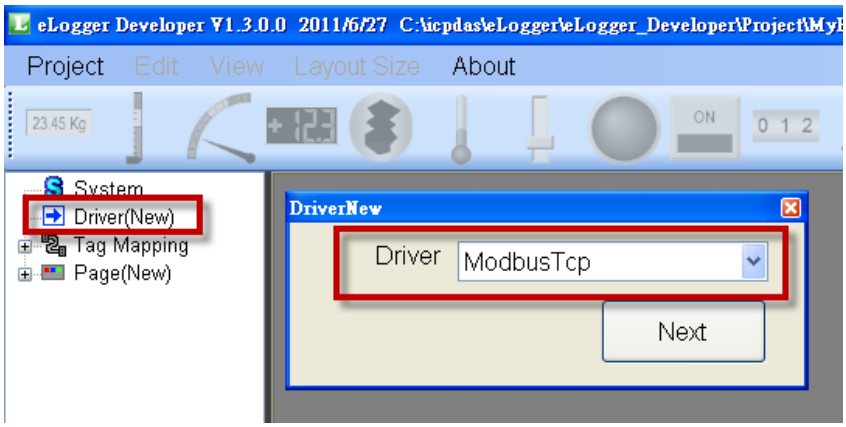
FC3 Read multiple registers (4xxxx) for AO

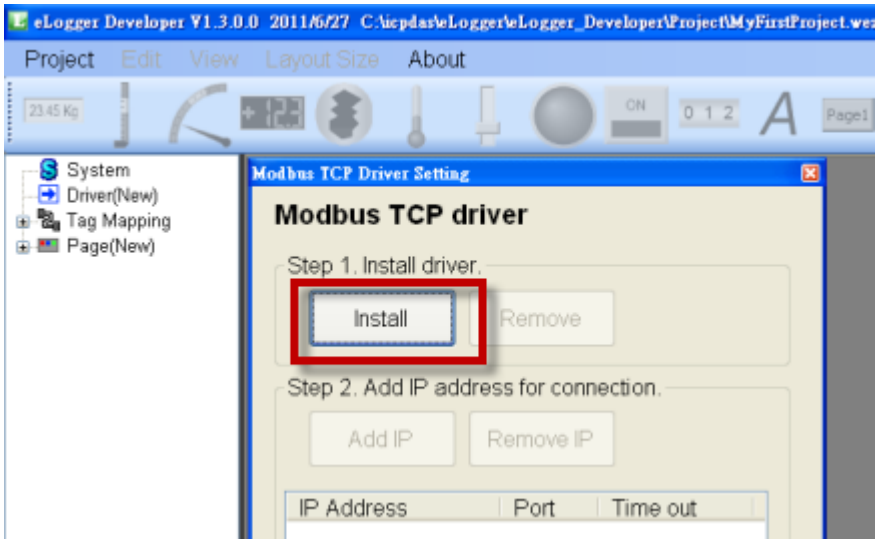
FC4 Read multiple input registers (3xxxx) for AI

FC5 Write single coil (0xxxx) for DO

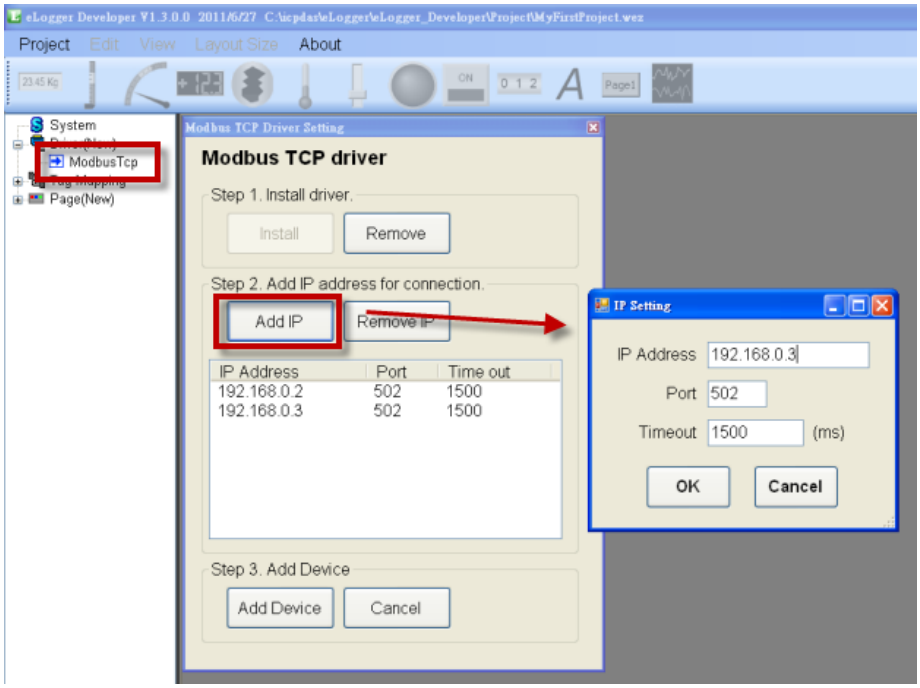
FC6 Write single register (4xxxx) for AO

Step1. Install Driver

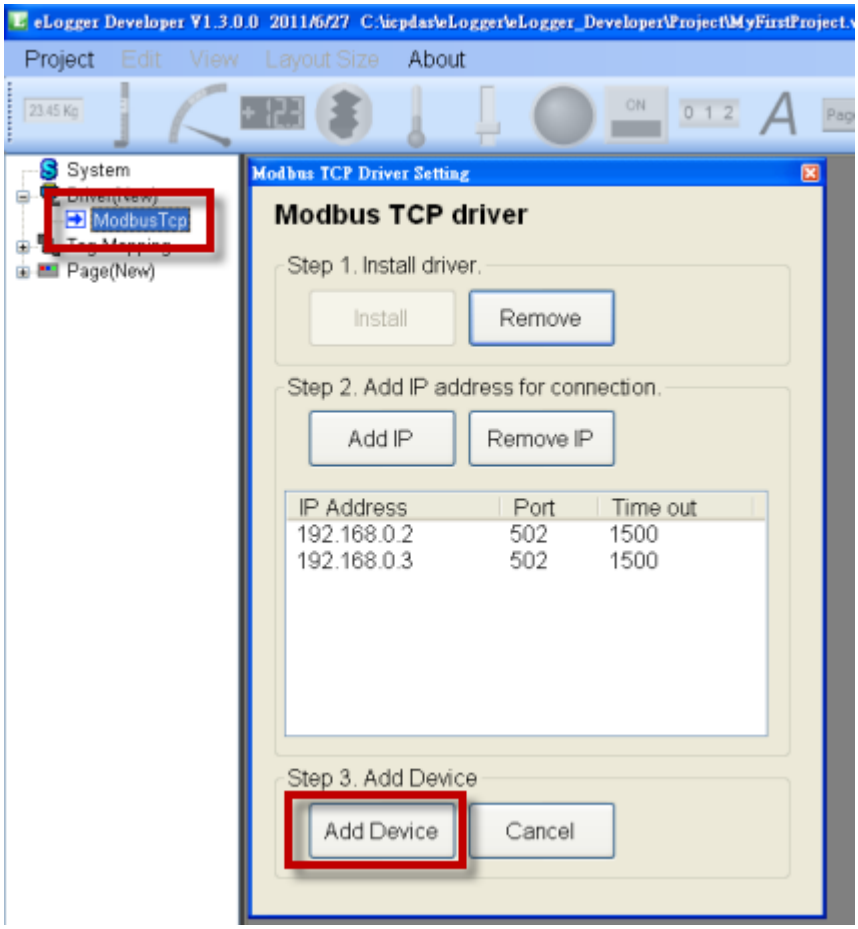




Step2. Add IP address. The driver will create a tcp connection for each IP address.

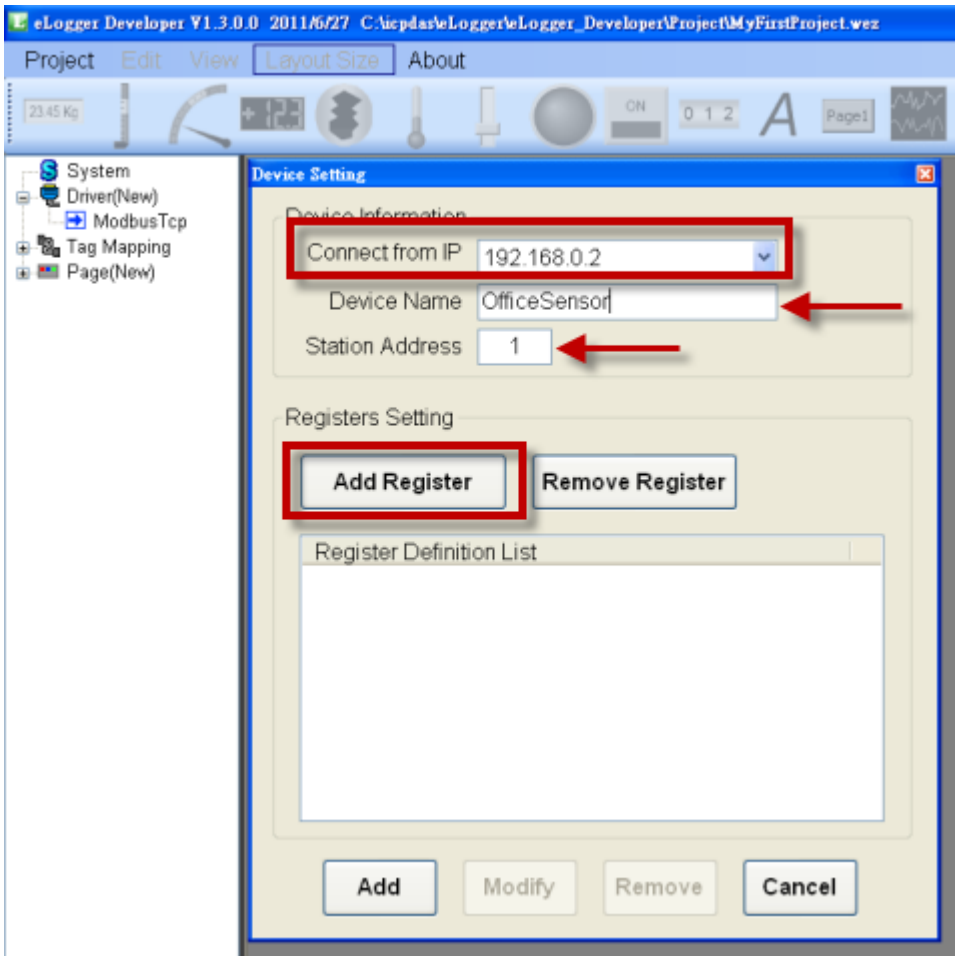


Step3. Add Device.

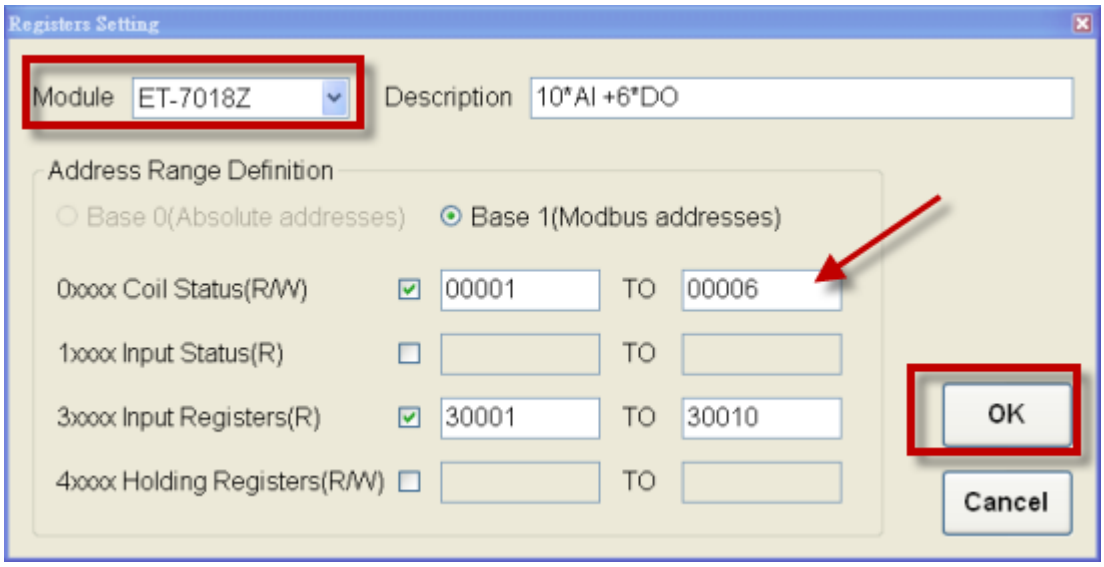


Select a connection IP, type a name for identification, and set the device's station address (in other words ID or station ID).

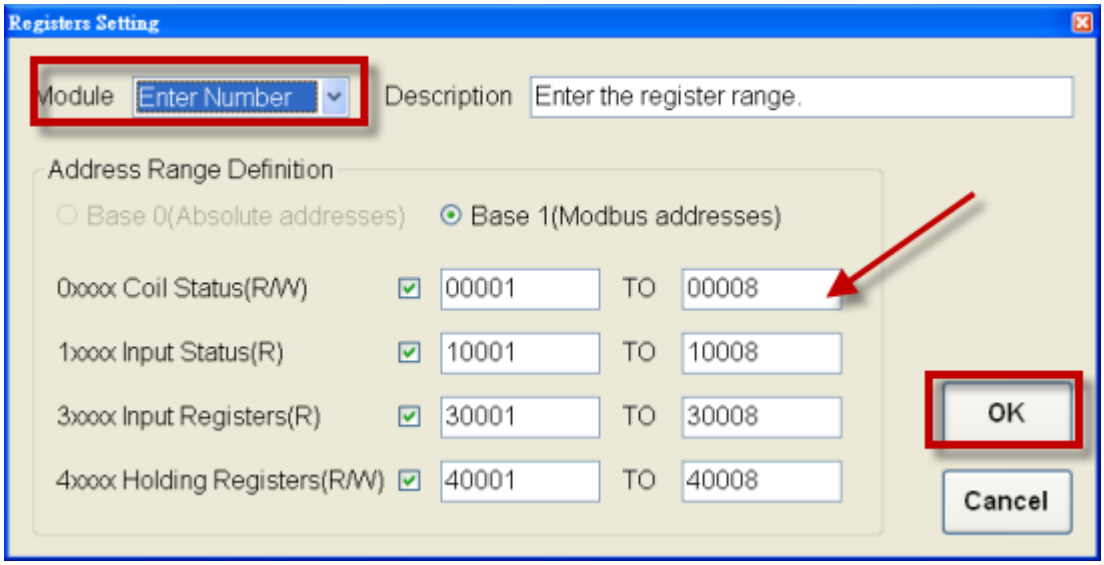
And then click "Add Register".



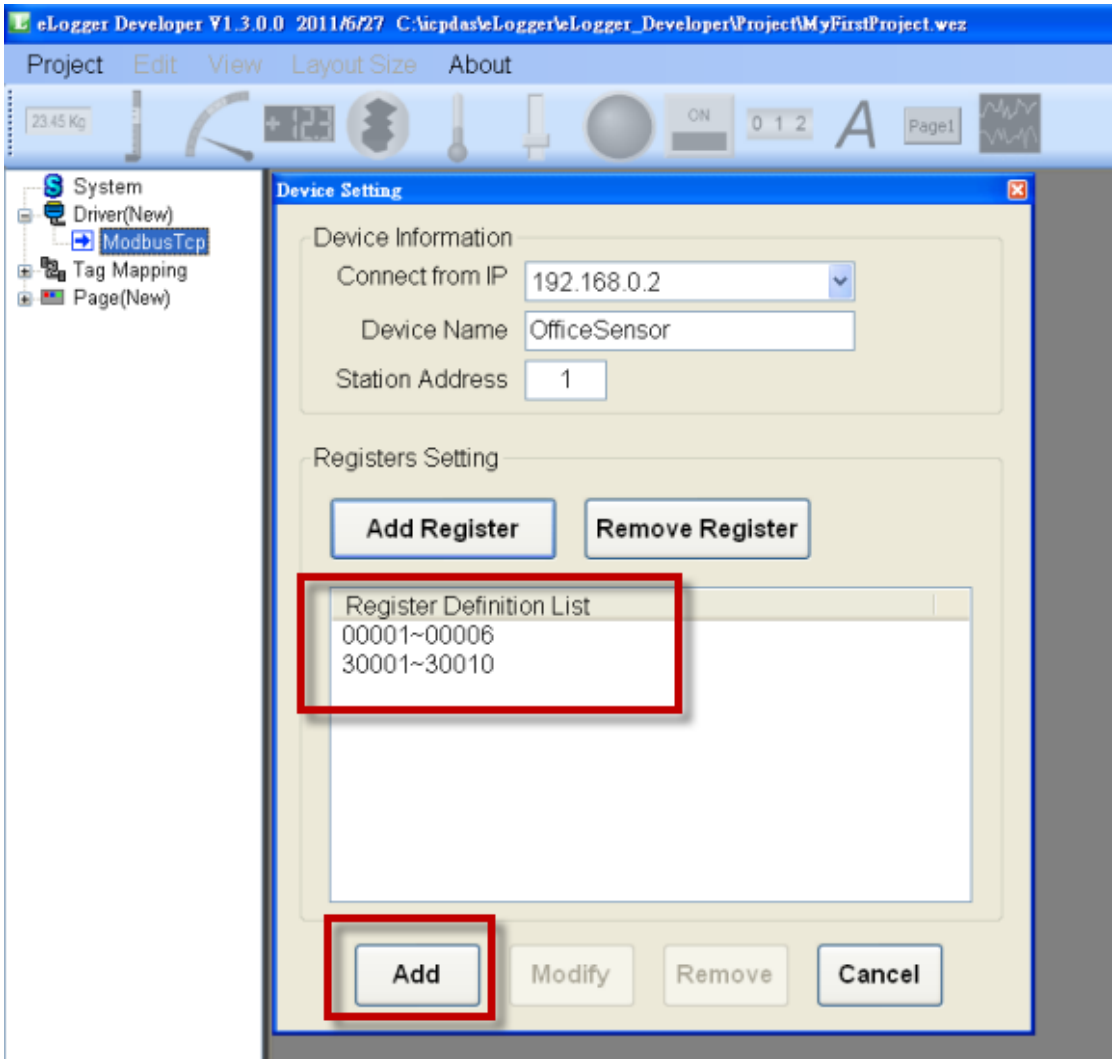
Choose a module, and the register will be filled automatically.



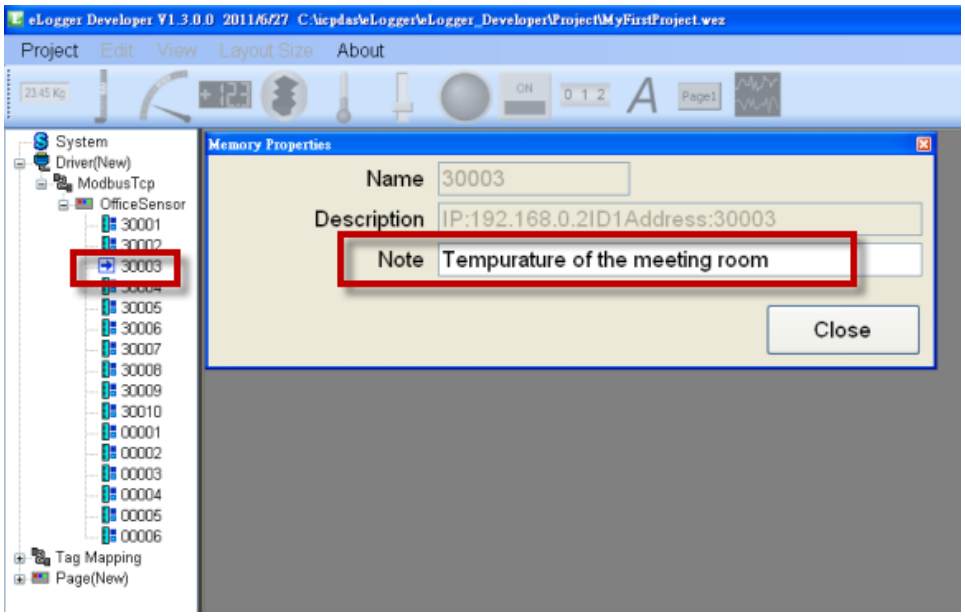
Choose “Enter Number” for filling the registers manually.



After the registers were added, click “Add” to add the device.

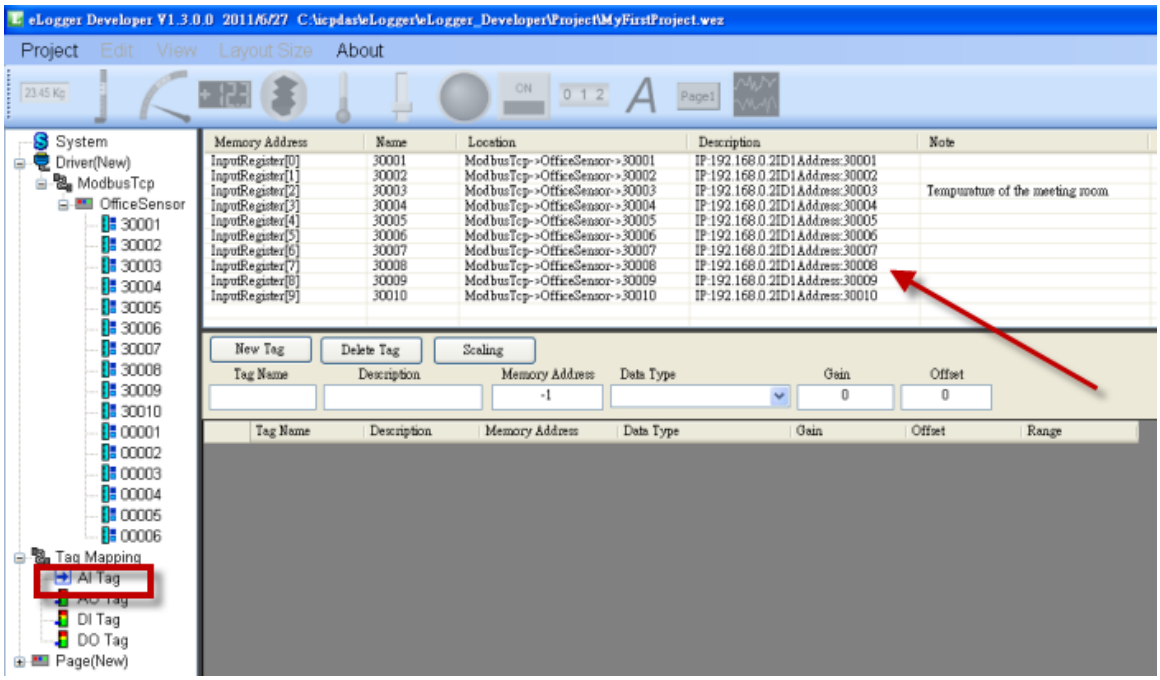


You can edit the channel's note.



The channels will map to the shared memory.

You can see them on "Tag Mapping".



3.3 Modbus Serial

This driver supports ICPDAS Modbus RTU modules, and standard Modbus RTU/ASCII devices.

The driver uses Modbus command :

FC1 Read multiple coils status (0xxxx) for DO

FC2 Read multiple input discretes (1xxxx) for DI

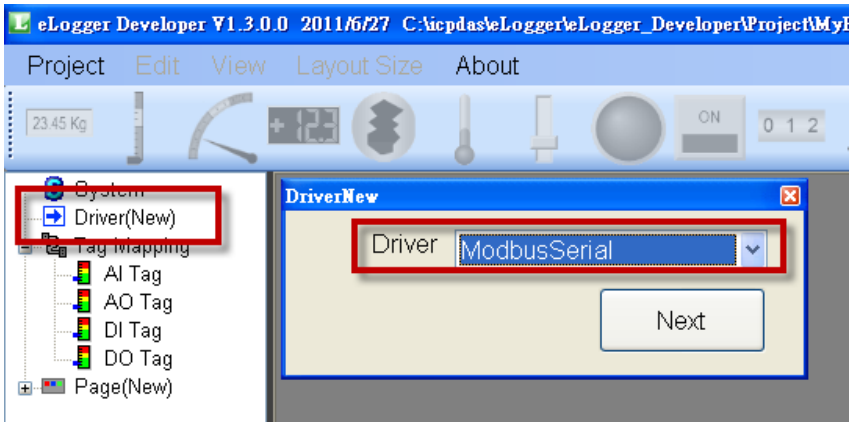
FC3 Read multiple registers (4xxxx) for AO

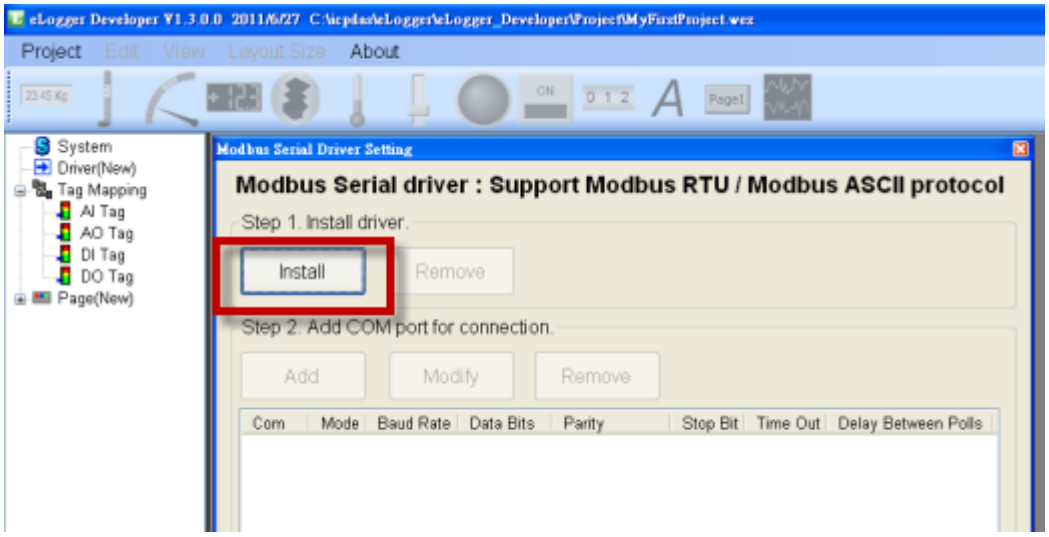
FC4 Read multiple input registers (3xxxx) for AI

FC5 Write single coil (0xxxx) for DO

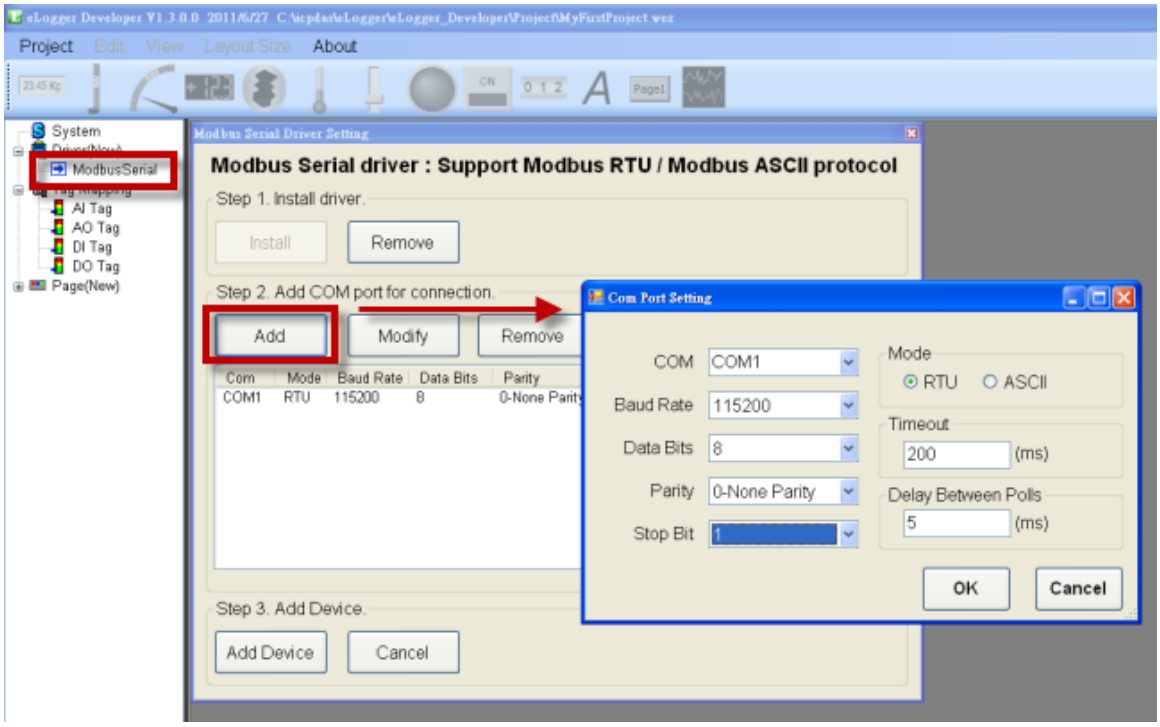
FC6 Write single register (4xxxx) for AO

Step1. Install Driver

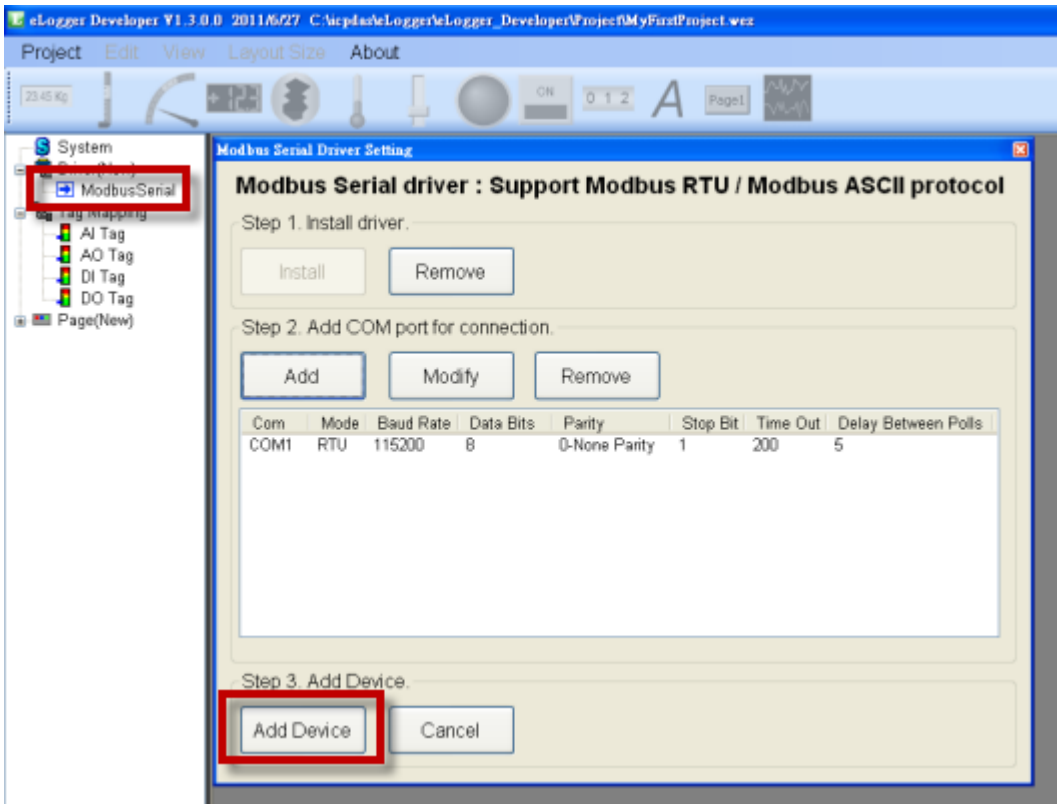




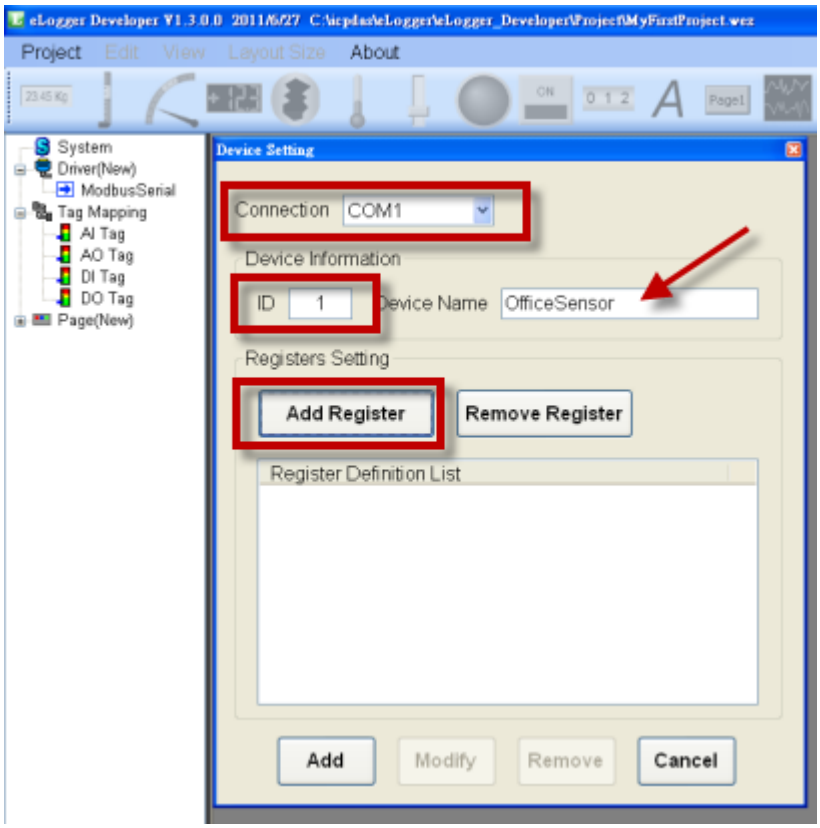
Step2. Add COM port that connect to the Modbus serial devices.



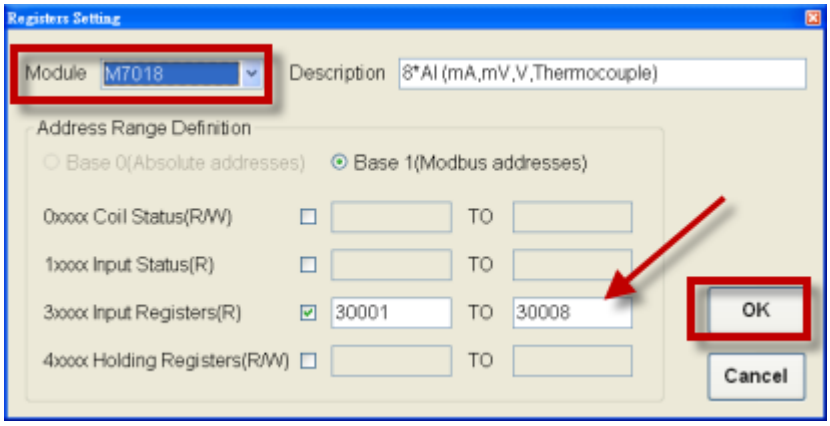
Step3. Add Device.



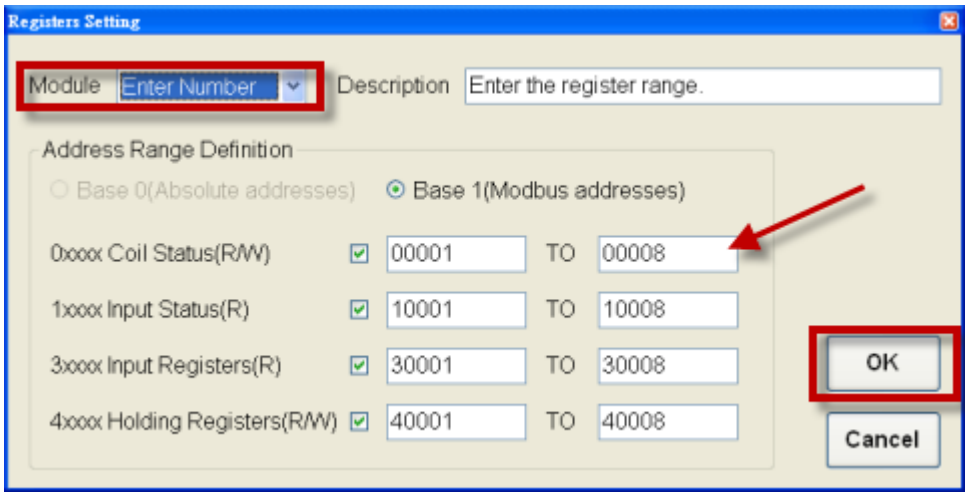
Select a connection COM port, type a name for identification, and set the device's ID (in other words ID address, station ID, or address).
And then click "Add Register".



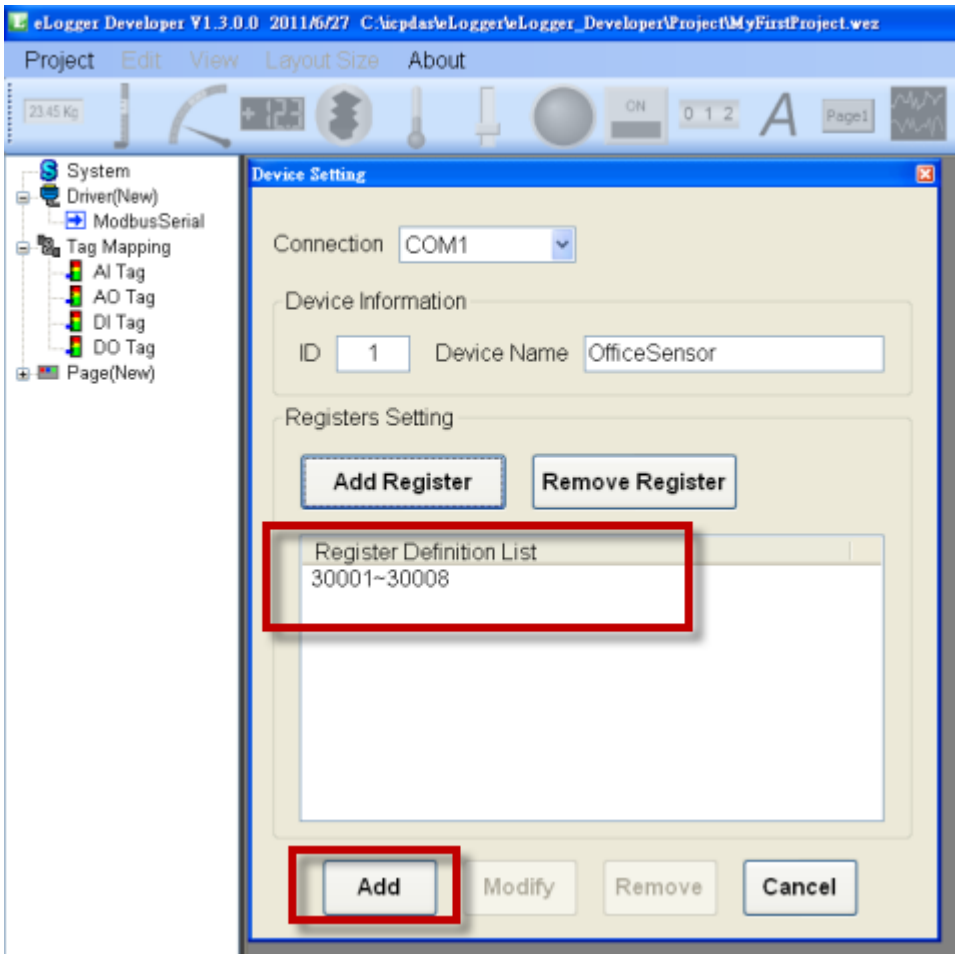
Choose a module, and the register will be filled automatically.



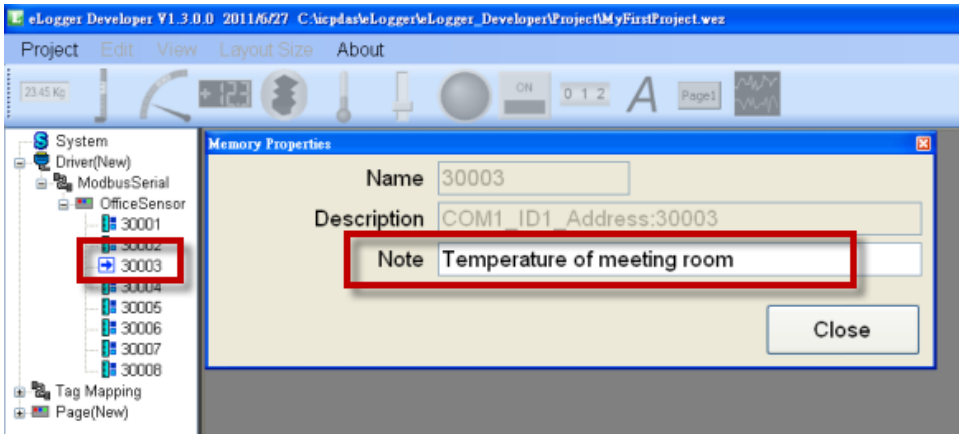
Choose “Enter Number” for filling the registers manually.



After the registers were added, click “Add” to add the device.

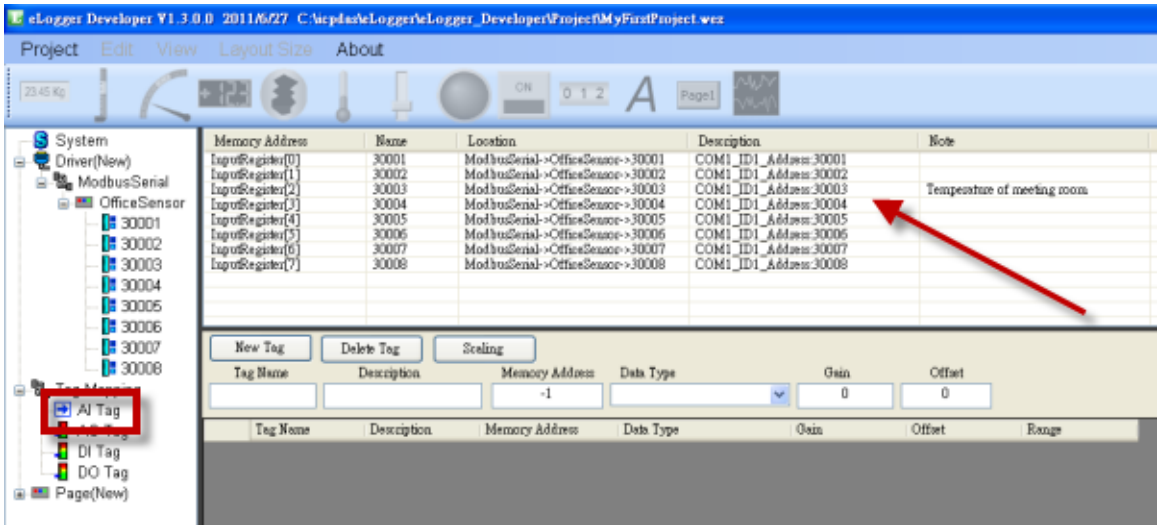


You can edit the channel's note.



The channels will map to the shared memory.

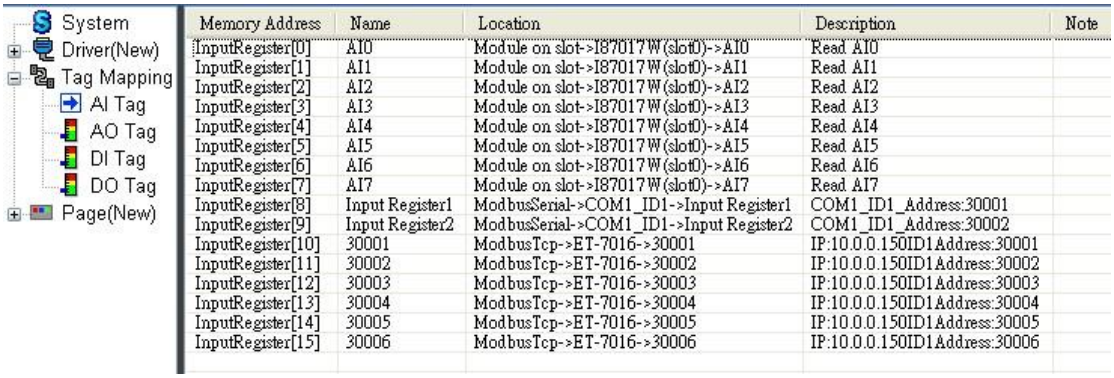
You can see them on "Tag Mapping".



4.Tag Mapping

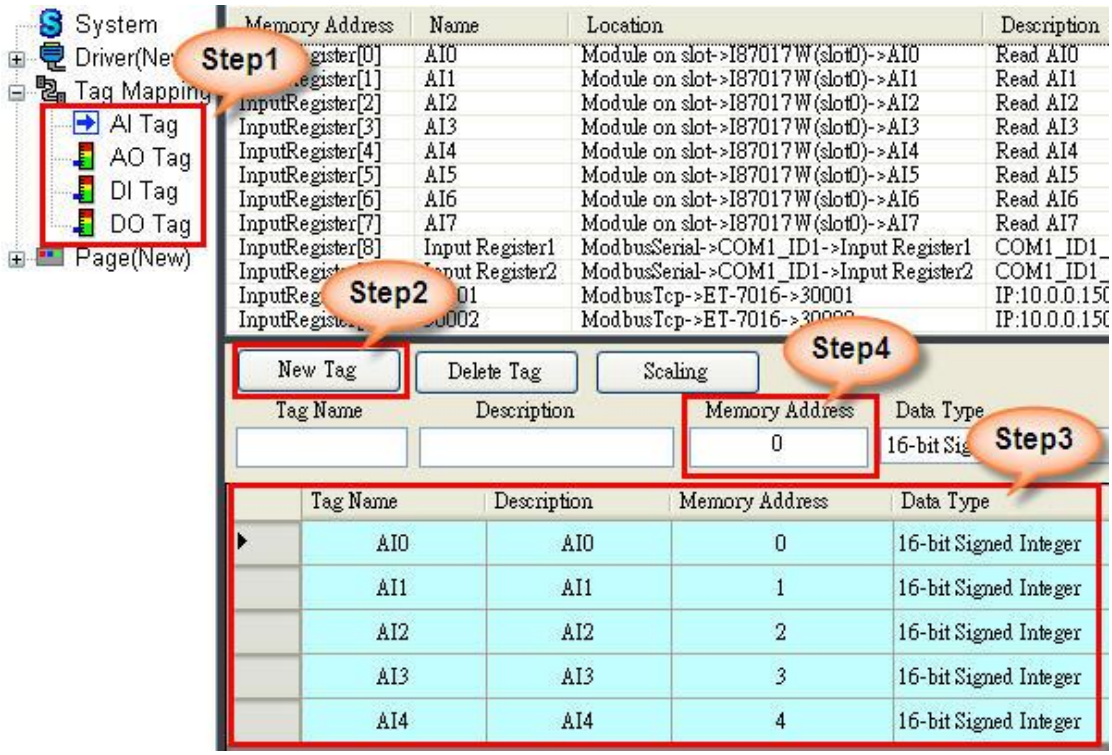
The “Tag Mapping” lists channels of all devices added in the project, and automatically arrays them by Shared Memory addresses sequentially. You can add new tags and assign them to specific Shared Memory addresses. The following description will show you how to set Tag property.

Shared Memory address starts from ”0”



Memory Address	Name	Location	Description	Note
InputRegister[0]	AI0	Module on slot->I87017W(slot0)->AI0	Read AI0	
InputRegister[1]	AI1	Module on slot->I87017W(slot0)->AI1	Read AI1	
InputRegister[2]	AI2	Module on slot->I87017W(slot0)->AI2	Read AI2	
InputRegister[3]	AI3	Module on slot->I87017W(slot0)->AI3	Read AI3	
InputRegister[4]	AI4	Module on slot->I87017W(slot0)->AI4	Read AI4	
InputRegister[5]	AI5	Module on slot->I87017W(slot0)->AI5	Read AI5	
InputRegister[6]	AI6	Module on slot->I87017W(slot0)->AI6	Read AI6	
InputRegister[7]	AI7	Module on slot->I87017W(slot0)->AI7	Read AI7	
InputRegister[8]	Input Register1	ModbusSerial->COM1_ID1->Input Register1	COM1_ID1_Address:30001	
InputRegister[9]	Input Register2	ModbusSerial->COM1_ID1->Input Register2	COM1_ID1_Address:30002	
InputRegister[10]	30001	ModbusTcp->ET-7016->30001	IP:10.0.0.150ID1Address:30001	
InputRegister[11]	30002	ModbusTcp->ET-7016->30002	IP:10.0.0.150ID1Address:30002	
InputRegister[12]	30003	ModbusTcp->ET-7016->30003	IP:10.0.0.150ID1Address:30003	
InputRegister[13]	30004	ModbusTcp->ET-7016->30004	IP:10.0.0.150ID1Address:30004	
InputRegister[14]	30005	ModbusTcp->ET-7016->30005	IP:10.0.0.150ID1Address:30005	
InputRegister[15]	30006	ModbusTcp->ET-7016->30006	IP:10.0.0.150ID1Address:30006	

4.1 Add new Tags



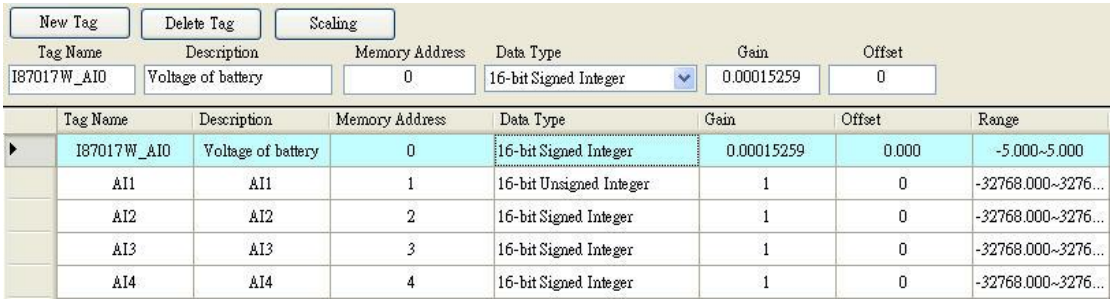
Step1. Select the Tag list

Step2. Press “New Tag” -> enter the number of new tags -> “OK”

Step3. Select Tag(you also can drag to select all tags with left mouse button)

Step4. Enter the Shared Memory address

4.2 Edit Tag (support batch edit)

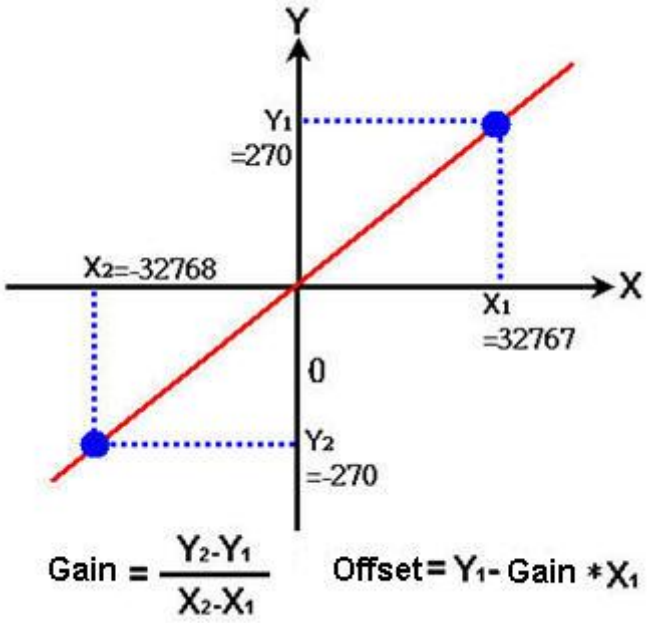


Tag Name	Description	Memory Address	Data Type	Gain	Offset	Range
I87017W_AI0	Voltage of battery	0	16-bit Signed Integer	0.00015259	0.000	-5.000~5.000
AI1	AI1	1	16-bit Unsigned Integer	1	0	-32768.000~3276...
AI2	AI2	2	16-bit Signed Integer	1	0	-32768.000~3276...
AI3	AI3	3	16-bit Signed Integer	1	0	-32768.000~3276...
AI4	AI4	4	16-bit Signed Integer	1	0	-32768.000~3276...

- ✓ Tag Name: You can specify a name easy to identify.
- ✓ Description: You can edit the tag's description.
- ✓ Data Type: Select the input/output type of channel

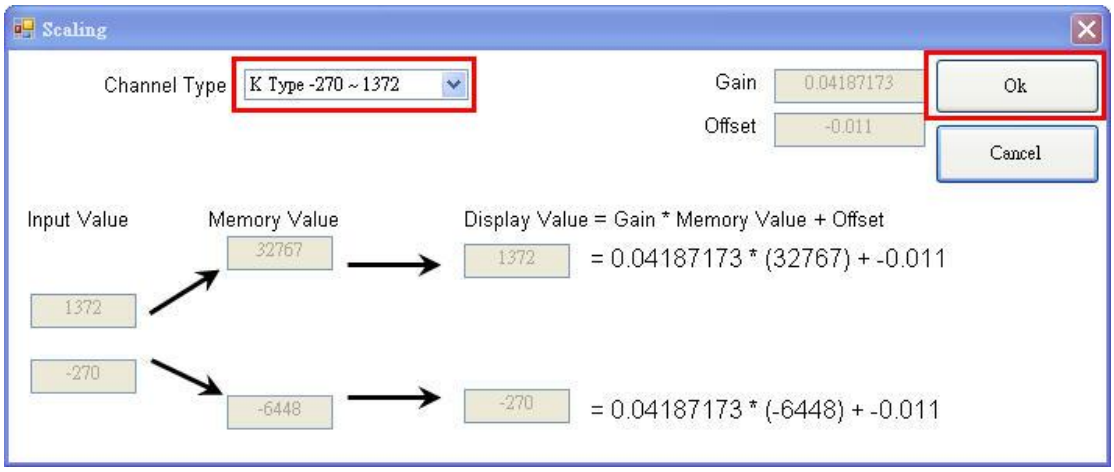
Data Type	Shared Memory address cost
16-bit Signed Integer	1
16-bit Unsigned Integer	1
32-bit Signed Long	2
32-bit Unsigned Long	2
32-bit Float	2

- ✓ Gain, Offset: Set gain and offset can scale the memory value to another physical unit. To obtain these two values first find out two sets of value and do operation by the formula provided below.(Example: display the temperature -270~270)

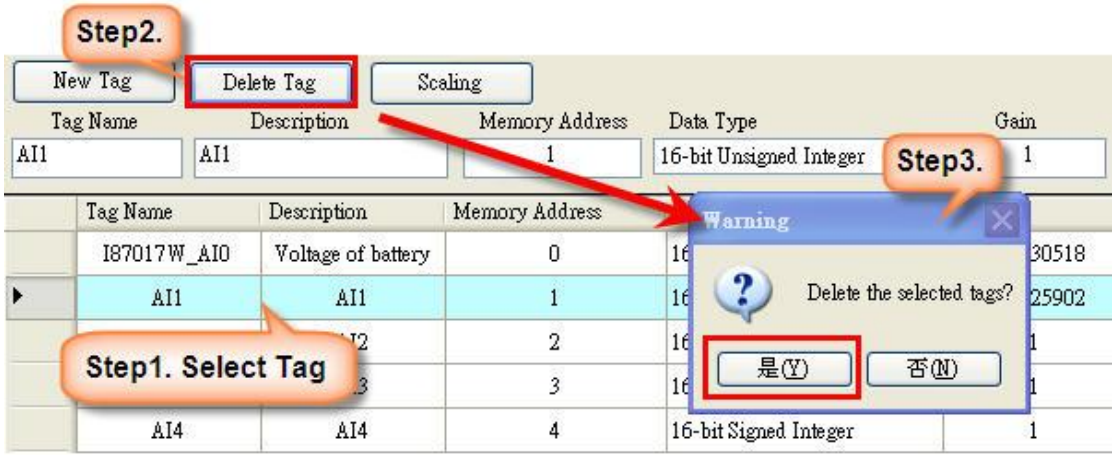


4.3 Scaling

The scaling tool helps you automatically get the “Gain” value and ”Offset” value. Press the “Scaling” button, select the “Channel Type” you need, and then press “OK” button.

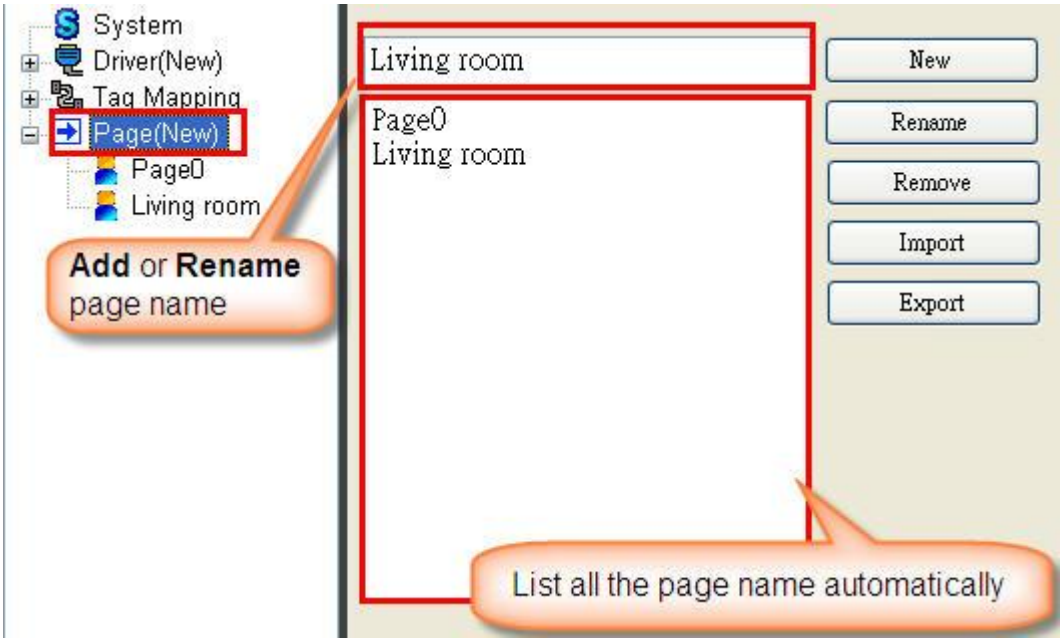


4.4 Delete Tag



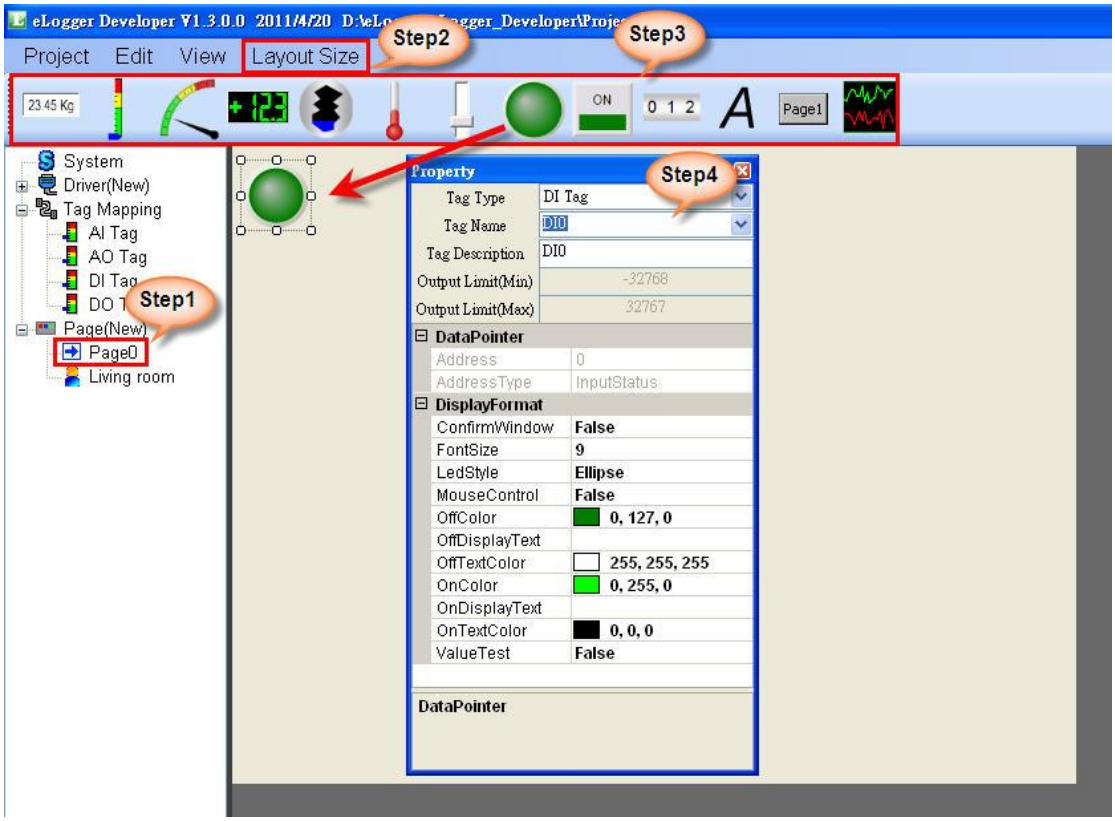
5.Layout Pages

5.1 Page Menu



- ✓ New: Add a new page to design.
- ✓ Rename: Select an exist page, and click “Rename”, and then enter new name.
- ✓ Remove: Select an exist page, and click “Remove”.
- ✓ Import: Import page file.
- ✓ Export: Export page file.

5.2 Design Page



Step1. Select a page to edit.

Step2. The default page size is 640X480, you can change size by “Layout Size”.

Step3. In the component list, add a proper component into the page by “click”.

Step4. Select the object and set its property (select “Tag Type” -> select “Tag Name”).

5.3 Button type

Button type	Description
Run	“Start” and “Stop” project.
Simulation	Simulation value.
SwitchPage	Switch the page, you have to assign the page name.
Exit	Return to eLogger Runtime menu.
LogIn	Enter password to log in “power user” or “Admin”.